METALSMITH

SUMMER 2000

volume 20
number 3

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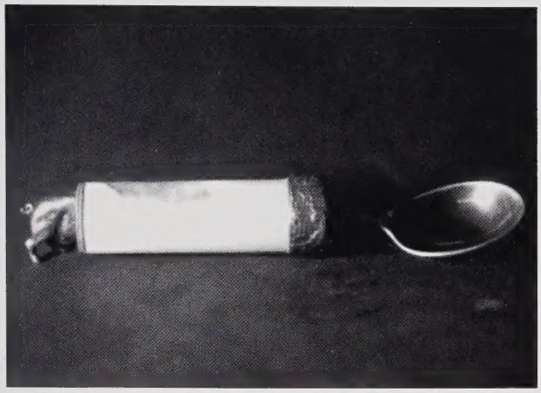
JEWELRY



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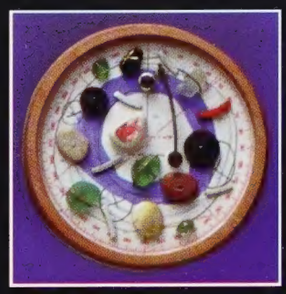

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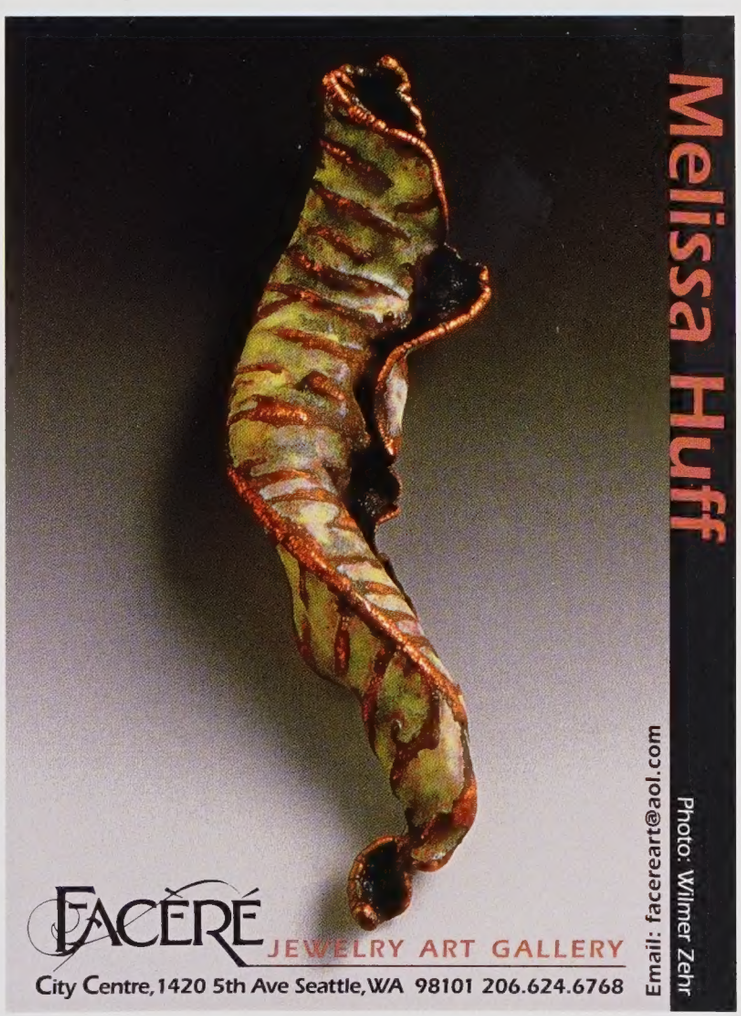

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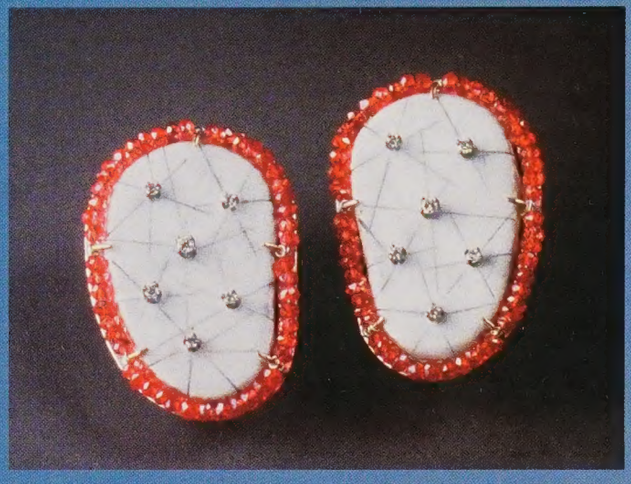

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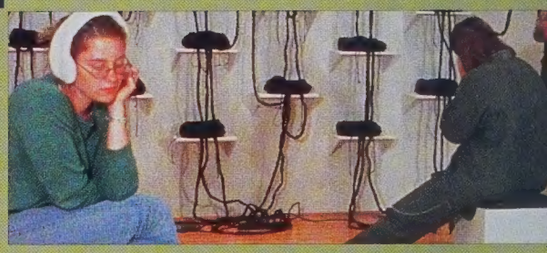

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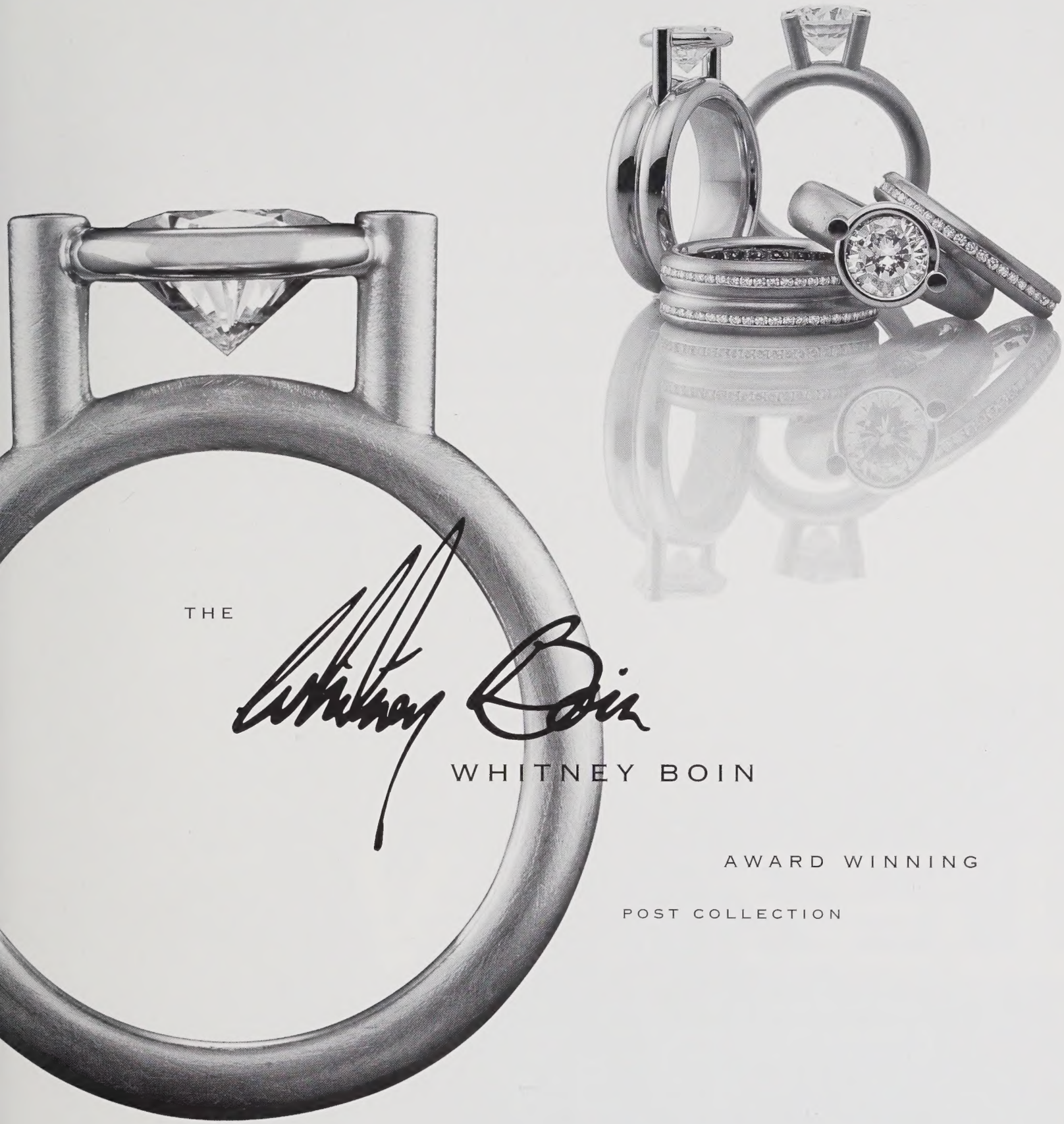
cover
Suzan Rezac
Pendant, 1999
silver, shakudo, shibuichi, bronze, copper
constructed and inlaid
1/4 x 2 x 2"

topleft
Suzan Rezac
Pendant, 1999
shakudo, shibuichi, silver, 18k
constructed and inlaid
5/8 x 2 1/8 x 3"

topmiddle
Stephan Maroschek
Wishing Ring (ring)
gold, silver, garnets

topright
Anne Wilson (in collaboration with A.B. Foster)
Told and Retold, 1998
sound installation

bottom left
Building Bridges
Brooch scale prototype in comparison to on-screen three-dimensional model with supports



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FROM THE EDITOR
FRANK LEWIS

A phone call to my office the other day revived some thoughts about an old issue. The caller, a scholar working on a book about silversmithing, wanted to know the magazine's policy regarding the word craftsman. The policy was something that I had not really thought about since I became the editor in 1992.

By the time I started editing *Metalsmith*, I had already become sensitive to the sometimes subtle power of language. As a teacher, I had previously discovered that referring to artists in art history classes as he/she, at first an awkward phrasing but later an unconscious response, did in fact seem to find resonance with some of my students (particularly the women). Some of those students even commented to me how much they appreciated that construction though they realized that at certain points in history the idea of a woman artist was probably very rare indeed. Some students teased me a bit regarding my "political correctness" long before the term came into common usage.

My affectation eventually came to be accepted, and "he/she," "him/her, " and his/hers" just became three more words in my vocabulary. The word "artist," a more neutral term offered me no misgivings.

So in 1992, when thinking about revisions to *Metalsmith's* style sheet I decided that, considering the high percentage of women in this field, it would be both insensitive and probably even subversive to continue to use the terms craftsman and craftsmen. At first, I substituted artist for all occurrences of craftsman. But a number of readers quite correctly reminded me that there was a distinct historical and practical distinction between the two terms and to substitute one for the other belied some very important issues. The only solution was to use the awkward, tri-syllabic, and extraordinarily self-conscious: craftsperson.

Accusations of political correctness inundated my mail. One writer, interestingly a woman, told me that she would no longer write for the magazine if I insisted on imposing my "wrong headed, pandering, overly hyper-active, opportunistic anti-sexism" on her copy. Other calmer voices just asked if the magazine "really had to go down that road?" I decided it did.

Some of the same individuals who had wisely pointed out the danger of replacing the word artist for craftsman took issue with craftsperson. After all, it was understood that craftsman did not consciously exclude female practitioners. To me, that was the very danger of the term. No, it was not consciously exclusive. I trust that it was not coined by a cabal of chauvinists intent on disempowering women. Yes, craftsperson and craftspeople were awkward, disruptive, and prosaic words, often interrupting the flow of passages because of their unfamiliarity and ostentatious correctness. But as an editor — dare I say a wordsmith? I believe that language creates us as much as we create language. Words have as much history, influence, associations, and familiarity as materials. What is the harm in recognizing words as active agents in attitudes and ideas?

In some ways I think that using craftsperson has a similar effect as choosing to use Tagua nut instead of ivory. It raises an issue, an issue that is significant enough to warrant an extra syllable or two. ■

FCL

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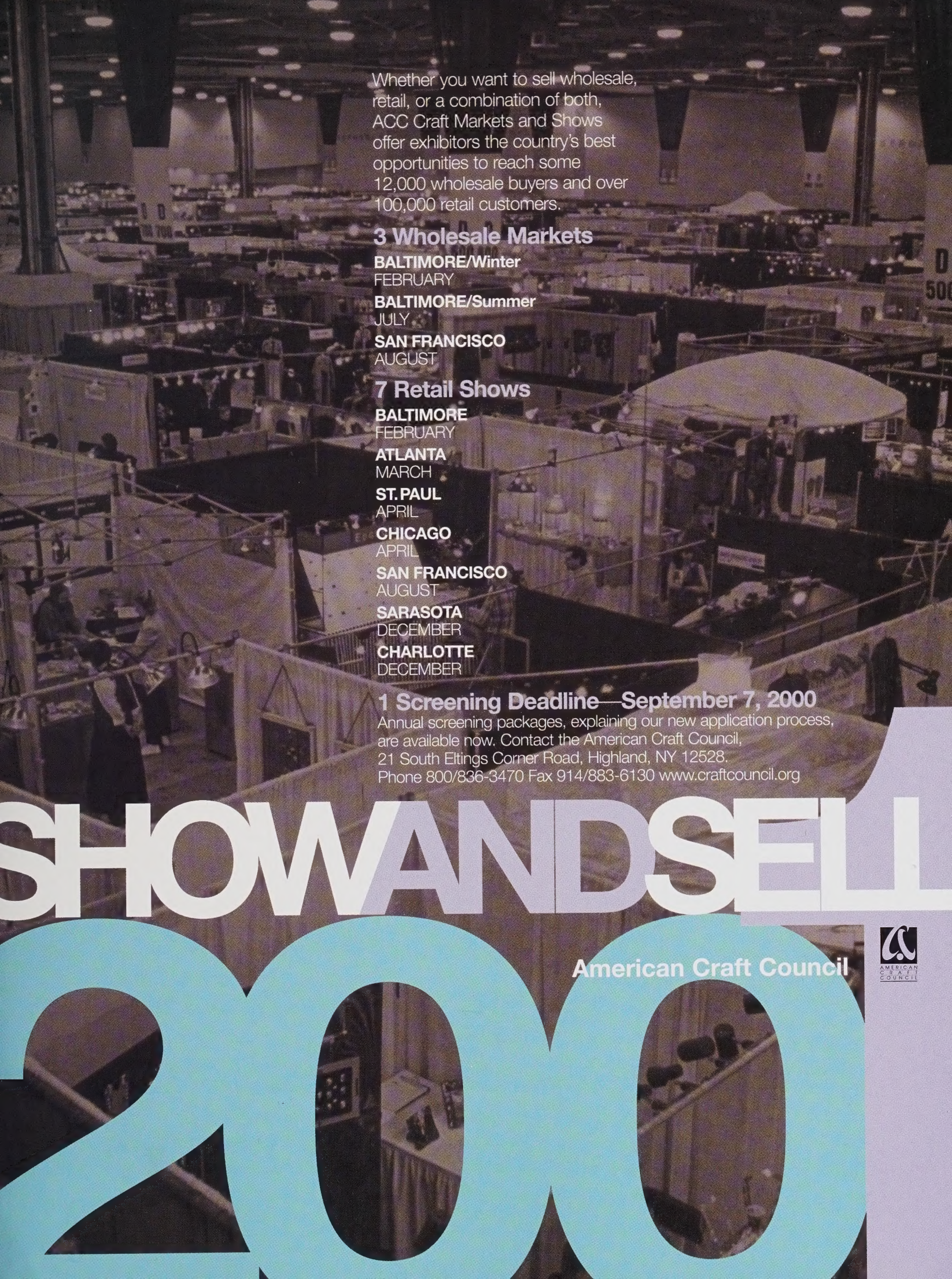

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OBITUARY

FREDERICK A. MILLER 1913-2000

text by Jeannine Falino

With the passing of Fred Miller, the nation has lost one of the most accomplished metalsmiths of the twentieth century. Arguably the greatest American interpreter of the Scandinavian modern style, Miller created an impressive body of free-form vessels that won him a national reputation. A demanding teacher, he sent countless students on to successful careers in education and industry.

Miller entered the Cleveland Art Institute in 1936 and taught there from 1947 to 1975. He was also president of Potter and Mellen, the Cleveland luxury goods retailer.

One of Miller's formative experiences took place at the 1948 Handy and Harman silversmithing conference, where teacher Baron Eric Fleming gave him the inspiration to experiment with asymmetrical vessels. The undulating shapes and tiny necks of Miller's bottle series of the 1970s epitomizes his ability to coax liquid form from solid metal. Few American metalsmiths have penetrated the mysteries of moving silver so well and with such elegance.

Jeannine Falino is the Carolyn and Peter Lynch Curator of Decorative Arts and Sculpture Arts of the Americas at the Museum of Fine Arts, Boston, Massachusetts.

Photograph Fredrick Miller

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IN MY OPINION
NOEL LEICHT

MY TURN, A COMMENTARY ON EXHIBITION TITLES AND THEMES

What's in a name? When attending or reviewing exhibitions, I frequently wonder what the titles and themes of exhibitions are supposed to suggest. I admit that, as an exhibiting artist, I pass on lots of opportunities because I simply can't figure out what the prospectus is saying in relation to the title of the show or there isn't anything on my shelf that seems to fit what I think the theme is about. Sometimes I just get annoyed and decide that the obscurity is a deliberate conspiracy against my kind of three-dimensional art!

Having occupied both sides of the divide — as an exhibit planner and an artist — and now finding myself tiptoeing on the top of the fence as a reviewer, I'd like to open up a thoughtful discourse about the subject. Almost every time I write a review, I want to throw a few barbs at the artists for ignoring the title and the theme of the show. And, I want to say to the organizers and juror(s), "Don't you know there is supposed to be content in the art related to that theme?!" Humphhhh! To what avail? Nobody is home to listen! Fine! But, why then name the shows? I've been told that jurors want some direction. That sounds reasonable. And, funding agencies find it sexier and easier to understand where their money is going if they can get a handle on something meaningful like a title or theme. Fine! Name the shows. Goodness knows the arts need all of the financial support they can get.

But can't we all walk on the same side? As a programming committee member of several arts groups, I have searched my thesaurus for provocative titles and themes that would stretch the imaginations of participating artists, prospective viewers, and generous philanthropists. I have attempted to present seductively titled shows that invited everybody into the fold. Some folks responded with whatever was wet on the easel, hot out of the kiln, or fresh from the torch. The jurors who were charged with culling through the entries invariably called to ask what the theme meant and what criteria they should use to judge the work. Gallery visitors come and go. Nothing interesting or remarkable occurs, except the increase in my frustration level as I attempt to focus and strengthen the shows with thematic ideas.

I will go on record here: I believe in themes and expressive titles. I think they provide direction, focus content, stretch artists, and — maybe most importantly — instruct and educate viewers about the artists' work without having to walk through an exhibition plugged into an accoustiguide or reading a brochure. While beautiful and moving, art is also meant to provoke thoughts and emotion. It should make the viewer, artist, and reviewer think.

Using themes effectively does take more effort on everyone's part. Exhibitions must be announced well in advance so artists have time to ponder, plan, and execute. This means organizers must be months ahead in their scheduling and communications — which is generally necessary for fund raising anyway. Most important, someone must articulate (translate?) in clear understandable language a decent hint deciphering the theme for everyone interested. One well-written sentence should suffice.

Are we, the artists, the reason themes don't work?

My guess is, probably. We are self-conscious and often, out of necessity, self-absorbed individuals who don't want to be organized, herded, instructed, or badgered by anything that resides outside of our work and our studios. Why can't we accept the challenge of theme shows, bite the bullet, and push our boundaries?

One of my main points of contention with artists is that we don't educate our audiences about our work. We artists are a bunch of iconoclasts, too self-absorbed — or shy and insecure — to leave our perches and come down into the world to explain ourselves and our thoughts. What seems easy to express visually is difficult to enunciate in words.

A carefully considered theme show is a way of doing that. The art can speak directly to the viewer without the artist talking — that is, if the exhibition is presented in some logical format that is understandable to the uneducated eyes of the public. Environment and presentation, in today's world of non-critical thinkers and viewers, are important, and so are themes!

On the other hand, I have to be fair. Perhaps if the prospectus were clear and succinct, with articulate expectations and explanations — no artspeak — we artists would respond accordingly, or at least get fairly bumped out of the competition to exhibit.

Think about it.

Now that I've made my bias known, I'm turning off my telephone ringer and canceling my subscription to AOL. If you write to disagree, I'll be too busy to respond, since I'm dreaming up words and phrases for my fantasy theme shows. ■

Noel Leicht is a metals artist and writer, living, working, and dreaming in St. Louis, Missouri.

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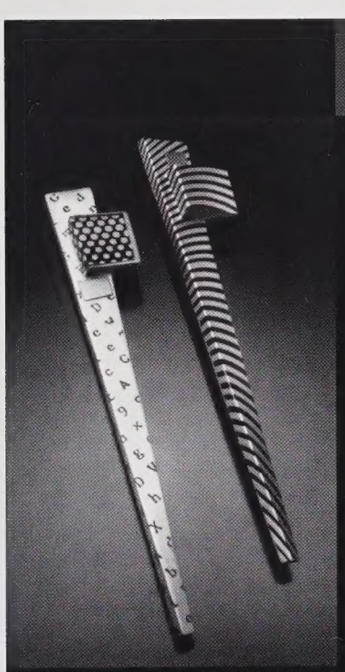

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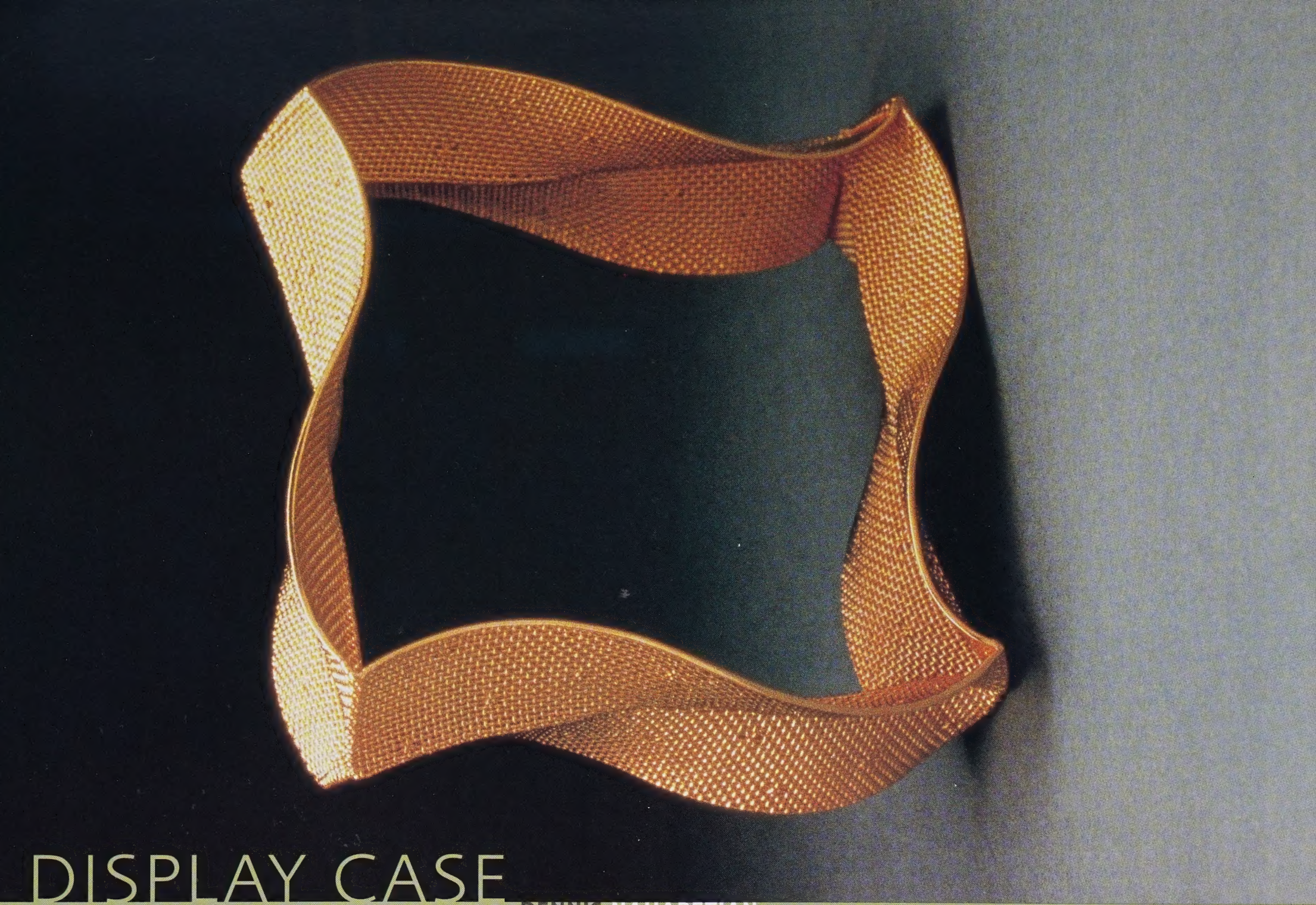
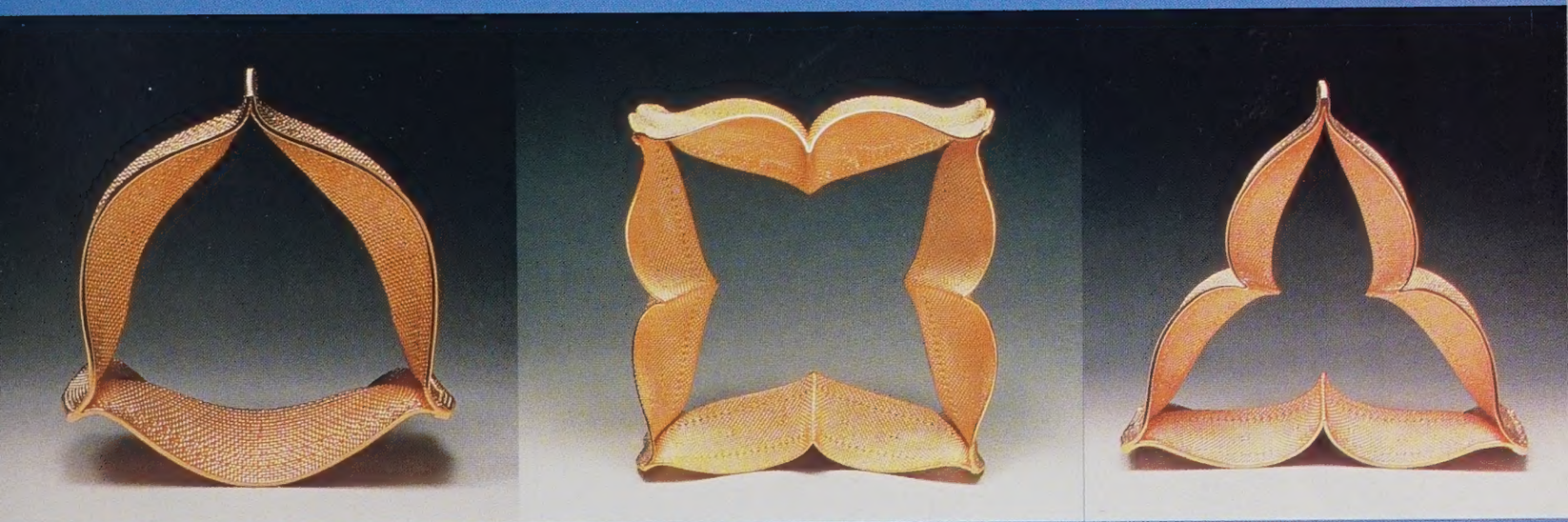
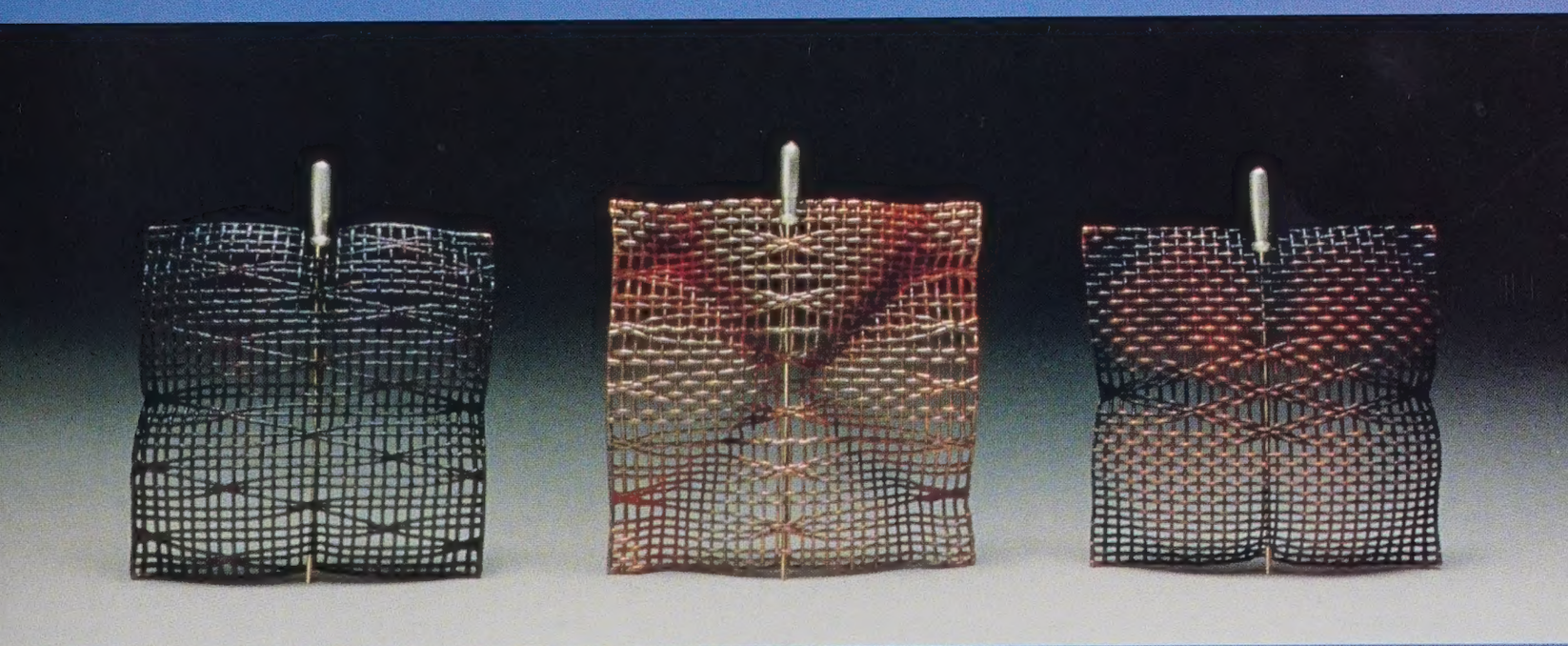


DISPLAY CASE

DENNIS NAHABETIAN





facing page
Wave (arm ornament)
gilded copper
3 1/2 x 1 1/4"

top left
Minuet (arm ornament)
gilded copper
3 1/4 x 1 1/2"

top middle
Quatrefoil Arm Ornament
gilded copper
5 x 5 x 2"

top right
Trillium (object of contemplation)
gilded copper
5 x 2"

bottom
Fugue, Coda, Duet
(brooches).
copper
approx. 2 x 2 x 3/8" each

Suzan Rezac

text by Polly Ullrich

Suzan Rezac, who was working in her kitchen on a recent summer day, heard a slight noise in the adjoining living room of her historic Prairie Style home in Oak Park, Illinois. She walked into the room, with its art glass transoms and its glittering mosaic Arts and Crafts fireplace, to see a stranger — a bemused Japanese tourist inspecting a guide book. Rezac, who had left her front door open because of the hot weather, screamed. The startled man fumbled his book — and screamed back.

left
Necklace (front), 1998
shakudo, 18k, shibuichi, silver
constructed and inlaid
1/2 x 21 x 1 3/8"

right
Pendant, 1999
shakudo, shibuichi, silver, 18k
constructed and inlaid
5/8 x 2 1/8 x 3"

Rezac, a jeweler and former gallery owner in Chicago, related this anecdote with good humor during a recent interview at her studio in the house, built in 1900 and designed by the architect E.E. Roberts, a colleague of the famous founder of the Prairie Style in architecture, Frank Lloyd Wright, Jr. In fact, the home, the Andrew J. Redmond House, which has won a local award for its restoration by Rezac and her husband, artist Kevin Maginnis, is perched in the middle of a veritable collection of historic Prairie Style homes in the Chicago suburb. It is down the street from Wright's studio and home and close to other Wright-designed masterpieces, which is where the Japanese tourist actually wanted to be.

left
Necklace, 1999
silver, shakudo, 18k, shibuichi, copper
constructed and inlaid
1/4 x 20 x 1 1/4"

right
Necklace, 1997
18k, lapis lazuli
1/8 x 20 x 1 1/4"

"This is my own private paradise here," said Rezac, who has occasionally opened the house — and also her garden — to architectural tours. "This is something I could share with people."

Rezac's gift for creating aesthetic environments that encompass a wide range of categories and draw enthusiastic viewers emerged in 1988 when she set up Rezac, the Chicago gallery that successfully mixed avant garde jewelry and the most radical conceptual fine art, to critical success. Rezac featured vanguard European jewelers, such as Otto Künzli, Gerd Rothmann, Detlef Thomas, and Daniel Kruger, who rubbed shoulders in gallery shows with the cream of Chicago's fine artists,

While it might be sculptural, it is not supposed to be little pieces of sculpture.

people such as Tony Tasset, Richard Rezac (no relation), Mary Brogger, and Tom Friedman.

In partnership with Feature Gallery, which has since moved to New York, Rezac also lined up group shows that included such luminaries as Richard Artschwager, Robert Mapplethorpe, Richard Prince, and Jenny Holzer. When she closed the gallery in the early 1990s because of the birth of her son, Rezac had carved out an unconventional niche that linked conceptual work in both the fine and decorative arts. By then, the gallery had helped to solidify the explosion of innovation in the previous twenty years of contemporary jewelry making. And, although it also showcased American jewelers such as Joan Parcher and Rebecca Batal, it provided a Midwestern forum for European style and concepts.

Rezac has, for most of her life, successfully transcended boundaries in one way or another. A significant part of her childhood, in fact, was spent as a political refugee, the daughter of two physicians from the Czech Republic who were working in Algeria in the late 1960s. Rezac's parents repeatedly attempted to emigrate to a non-Communist country, but were refused permission to leave Algiers. The family became increasingly alarmed as Czech agents pursued them from place to place in their daily lives, and finally an Arab friend forged visas for them.

At 5 a.m. one morning, the family split up — Rezac and her mother separating from her father to make their journey through two different entry points less noticeable — and they all fled into Morocco. An indelible memory for Rezac at the time was her mother's anxiety when her father could not immediately reunite with them in Morocco. They eventually made their way to Switzerland, where her father began to practice medicine. At eighteen, Rezac received her Swiss citizenship, which she retains. She speaks French, English, and Czech fluently.

Now, at the age of forty-two, Rezac has been concentrating on her own jewelry, which she modestly insists is not "cutting edge," like the work she carried in her gallery. However, a Rezac pendant or necklace — for which she is especially known — exhibits the restraint and purity, keen craftsmanship, and clean lines that won her a National Endowment for the Arts fellowship and the prestigious Herbert Hoffmann Award at the International Jewelry Show in Munich. Rezac's work has appeared in Europe, Japan, the American Craft Museum, and the Renwick Gallery at the Smithsonian Institution, as well as at practically every major jewelry gallery in the United States.

The influences on Rezac's art follow a wide spectrum, too. Her alma mater, the Rhode Island School of Design, was a major center of jewelry production in the eastern United States when she attended it in the late 1970s and early 1980s. The school was a stopover for visiting European art jewelers who taught a cool, minimalistic, idea-oriented aesthetic. Student metalwork coming out of RISD — under the direction of professor Louis Mueller, and influenced by this European sensibility — was known for its crisp, plain, edgy quality and its three-dimensionality. The constructed and

inlaid elements of Rezac's work, composed of gold, silver, copper, and the Japanese alloys shibuichi and shakudo, gently echo this RISD look. But they go much further.

Rezac cites the visits of German artist Claus Bury, whose bonded acrylic and metalwork created a sensation at RISD and in the rest of the American art jewelry community, as crucial to her own artistic development. Bury has been credited with introducing a conceptual — rather than a traditionally ornamental — focus to American art jewelry. Rezac's jewelry does have a strong conceptual, or idea-based, slant, as seen in her recent series of "shard" jewelry, which precisely replicates

It is always intended to be worn. "I view my work as jewelry,"

specific shards of ancient Greek pottery.

"These are very famous shards," said Rezac, as she pointed to a string of inlaid and constructed silver shards strung into a 20-inch-long necklace. "You could open books on Greek pottery and pretty much date and place every single one. These are from very famous pots, and not necessarily from the same period of time."

This mining and mixing of different times and cultures into a new fusion of images has obvious postmodern overtones. Rezac's combination of shibuichi and shakudo with inlaid gold gives some of her work an Asian — and therefore a slightly exotic and hybrid — inflection as well. Rezac's jewelry — a sleek blend of minimalistic purity with rich layers of history and ethnicity — rides the edge between part and whole, between shard and totality. The work is meant to surpass its individual pieces, and it is pulled together by its sharply honed workmanship and elegance. The shards are meaningful simply "because they were part of a whole," she said — that is, Rezac's interest specifically lies in reproducing and then transcending the metaphoric and aesthetic tension between disintegration and cohesion. In art as in life, Rezac has articulated and investigated the connections among seemingly disparate elements. She is currently experimenting with shards of leaded and dichroic glass. as well as metal.

Part of the pleasure of Rezac's work, however, lies in its unapologetic "jewelryness." This is work that, while existing in the realm of ideas, insists on a sensuous connection to the body. While it might be sculptural, it is not supposed to be little pieces of sculpture. It is always intended to be worn. "I view my work as jewelry," she said toward the end of the interview. "It might have sculptural form to it, or a three-dimensional form, or a painterly surface. But it's still jewelry; it's meant to be worn. It is designed for a purpose. There are ideas behind a lot of the work in this studio. These things can be quite conceptual in their nature, but they are also very wearable."

When the interview was over, Rezac strolled out on the long, horizontal front porch that reflects her home's Prairie Style architecture. It was a sunny, warm December day, and Rezac glanced past the two huge stone urns that guard her front door. At the end of the front walk, a small figure had paused, a guide book in hand. It was a young woman, a stranger, who glanced down at the book, then walked resolutely toward the house and up the front steps. She paused at the door, and flipped through her book.

"Is it all right to come in?" she asked Rezac. ■

Polly Ullrich is a writer living in Chicago.

Stephan Maroschek: The Fluidity of Time

text by Patricia Harris & David Lyon

Stephan Maroschek shies away from the labels of "jeweler" or even "artist," preferring to be identified as a "metal transformer." He didn't choose the term to capitalize on pop cultural trends; it implies that the metal has a continuous identity but a multiplicity of forms over time – forms for which he is the agent of change, of transformation. It's a starkly postmodern stance, all the more remarkable given Maroschek's milieu.

left
Wishing Ring (ring)
gold, silver, garnets

right
Ring for Male Hand
gold, labradorite, sapphire

He lives, as he always has, on the margins. Born in 1962 in a small town in Austria on the eastern edge of Europe, he chose to practice his art on the western edge of the continent: Lisbon. Largely self-taught, Maroschek took art and design graduate courses in Barcelona in 1989-90 and worked as a studio assistant in a major Finnish design school in 1996. But his Lisbon studio, perched in the shadow of gothic castle ruins above the city's old medieval Arabic quarter, could not be farther away in spirit from the cutting-edge centers of contemporary design, where he studied.

The same apparent contradictions carry over into his metalwork. His jewelry divides between formal pieces in which his personal design vocabulary is foremost, and pieces that embody an often ironic interaction with found materials – usually either silver scrap or old coins. There seems to be an aesthetic link between his "scrap" jewelry and the genteelly shabby neighborhood where he works, one of the few sections of the city not leveled in the 1755 earthquake. It is a neighborhood of fragments, of architectural details accreted over the years and altered by the passage of time. Beneath the bench in his studio, Maroschek keeps a horde of corresponding materials in boxes and boxes of scrap silver, the once-precious detritus of people's lives – old watch fobs, tableware, trim from dressing table sets, charm bracelets, napkin rings. . . . It is easy to imagine that each piece of scrap has a story behind it. Maroschek incorporates those snippets of anonymous personal history into new works that will acquire stories of their own.

The effect is akin to giving a Victorian dowager a spike hairdo, celebrating the unabashed sentimentality of the original design by calling it into relief with a modern, mechanistic element.

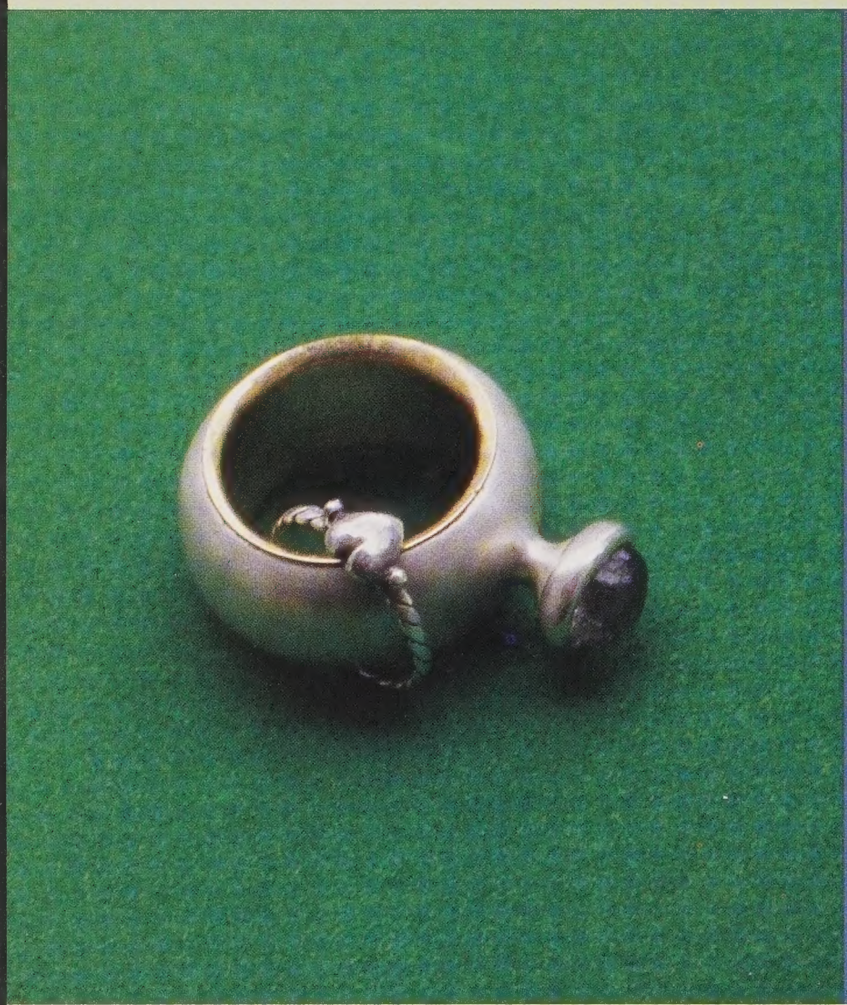
Like an architect quoting bygone styles courtesy of the architectural salvage yard, Maroschek uses scrap as the subject for further design commentary. For example, he takes somber silverware and napkin rings and assembles them into the silliest thing imaginable: wands for blowing bubbles. To add comic commentary to the formality of the wands, he displays them immersed in bubble solution of a virulent green hue.

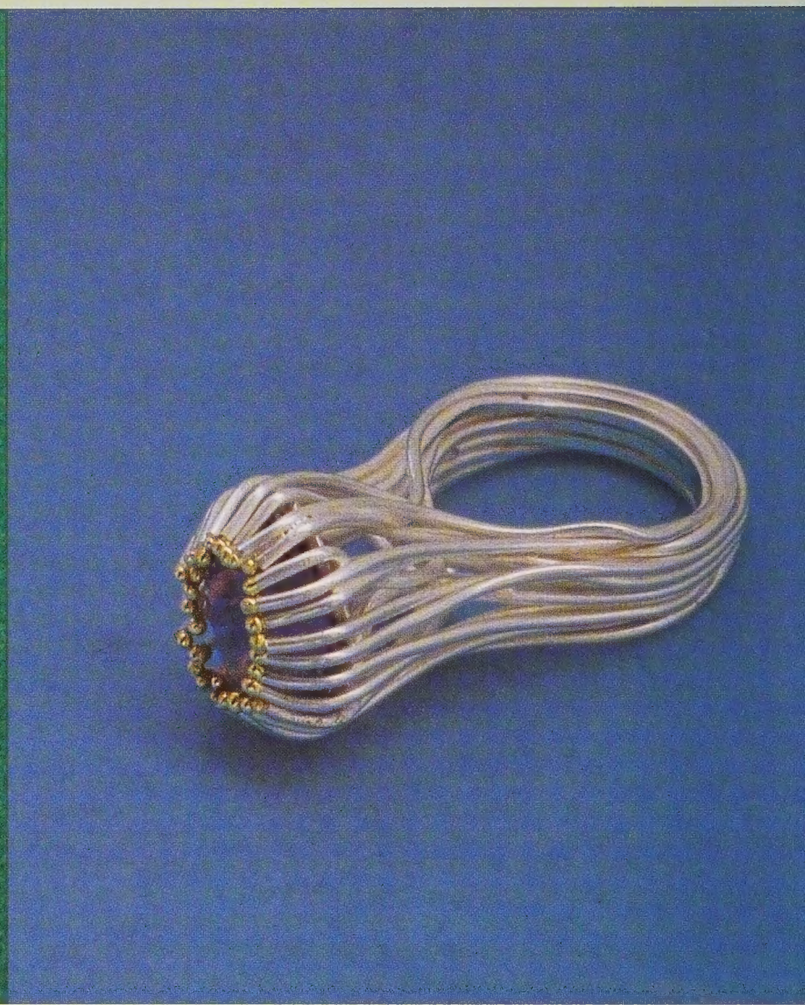
Other commentaries are less caustic, one could say they are even loving. He fashions a scrap silver floral frieze into a substantial ring, planting silver studs on the surface. The effect is akin to giving a Victorian dowager a spike hairdo, celebrating the unabashed sentimentality of the original design by calling it into relief with a modern, mechanistic element. In similar fashion, Maroschek incorporates small hand and arm charms from his scrap box to form the kinetic, sound-producing bangles of rattle pendants. Indulging his multi-lingual love of word play, he calls the pair *Rattles for a Blind Date*.

left
Rattles for a Blind Date
(neckpieces)
silver, silverscrap, steel cable

But Maroschek doesn't always wear the jester's mask. He has developed an extensive line of rings employing old silver coins, notably a 19th century Austrian coin where the edge inscription reads "with gathered forces" – an idea appealing to a "transformer" who has chosen to collaborate with an object's history. It is a longstanding convention in jewelry to incorporate bas-relief designs from coins, but when Maroschek employs the numismatic images, he demotes their pictorialism to geometric design elements. Indeed, he seems more taken with treating the coins as ring blanks from which he need only remove the distracting centers so he can get on with his transformations.

Whether working with coins or from cast or fabricated metal, Maroschek often mounts precious or semiprecious stones on the *inside* of the band, leaving only the back of the setting visible to the viewer and calling primary attention to the band. The stones are invariably cabochons, offering smooth faces that will glide easily over the wearer's finger. He thinks of the inward-facing stones as a dialogue between maker and wearer, a formal liberty that says, in effect, "Here, I made this for you



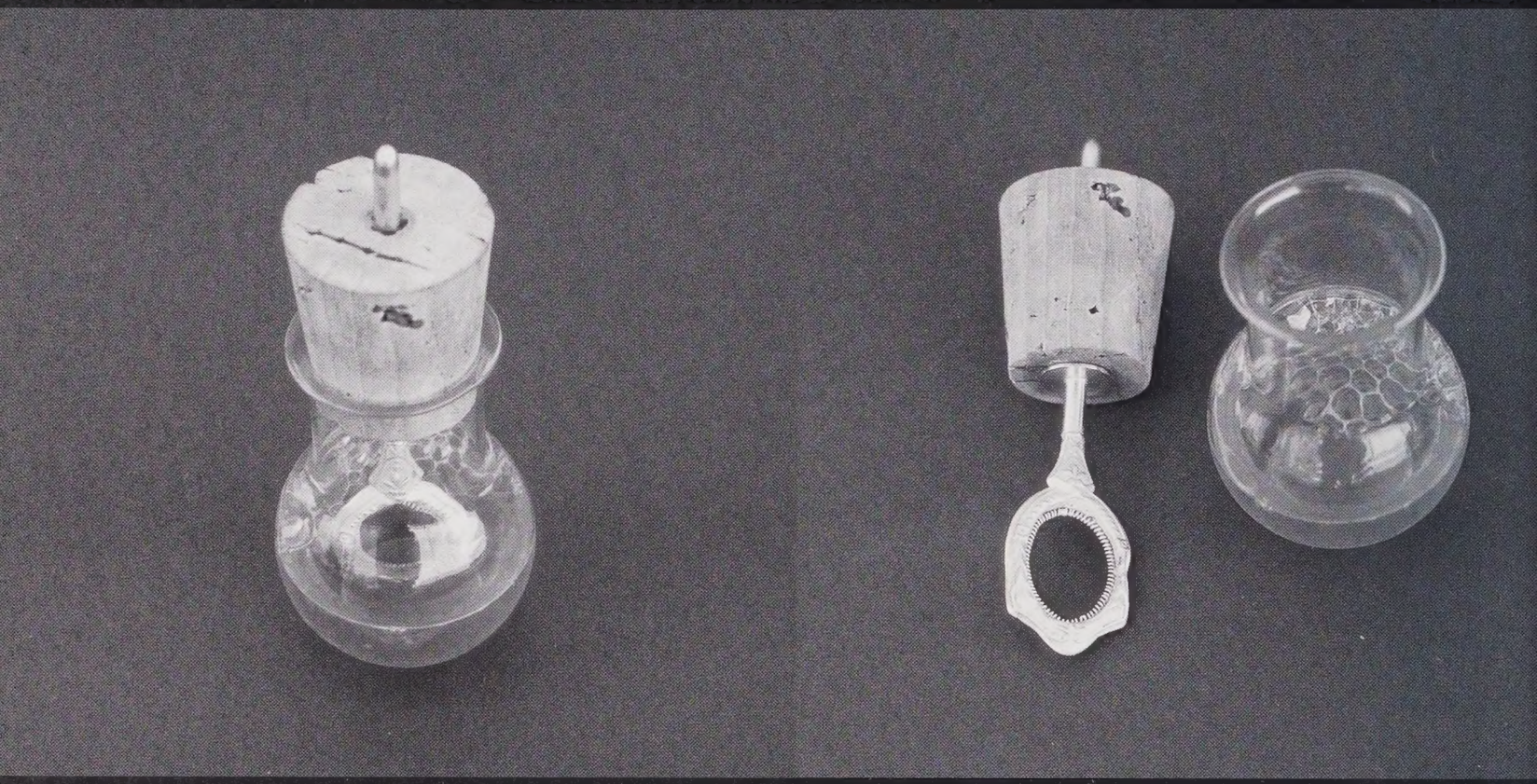


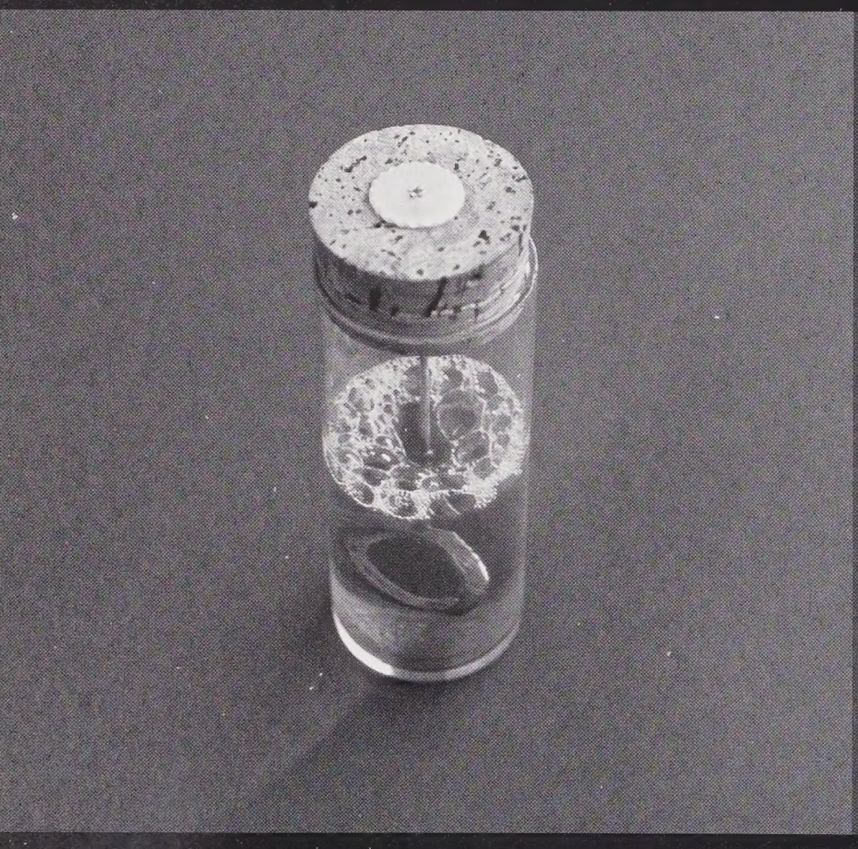
facing page left
Ring
silver, gold, silverscrap, labradorite

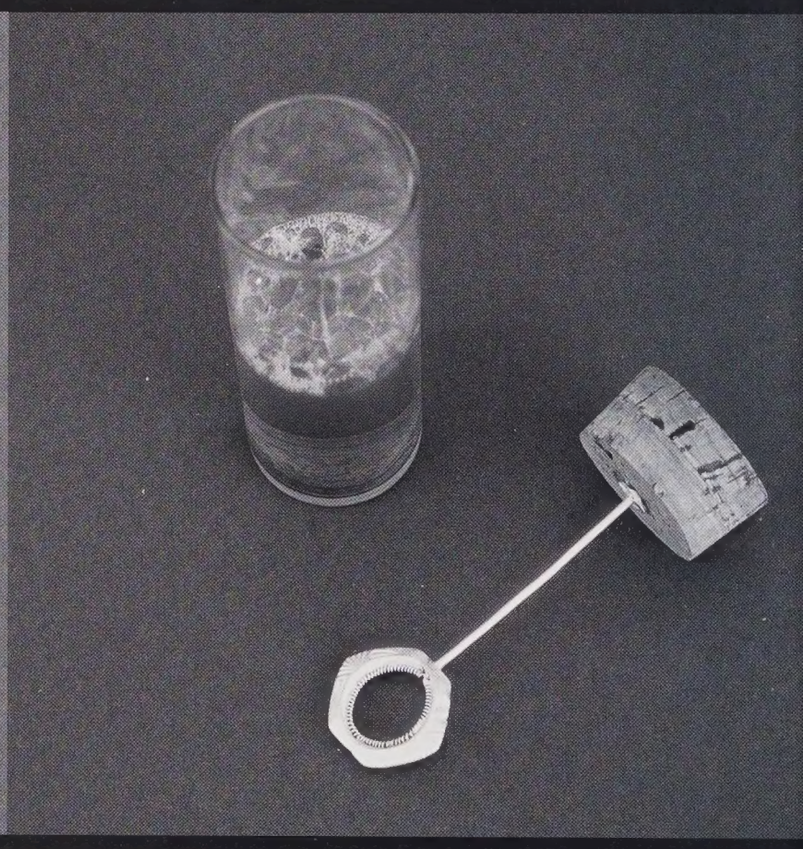
facing page right
Solitair (ring)
silver, gold, amethyst

above left
Ring
silverscrap, gold, opal, garnet

above right
Ring
silver, silverscrap, peridot







– just you." While he shrugs it off as an update on the tradition of inscribing the interior of engagement or wedding bands, he also allows that "jewelry has a social aspect, but it can be for a community of two, or even one."

Maroschek confesses to having always favored *sotto voce* design elements, believing firmly that "every piece must have four sides." In fact, he says, he was frequently criticized during his Barcelona studies because "I paid too much attention to the *back* of my pieces." His newer work goes further yet, making secretive embellishments central to the design concepts. His *Bell* ring, for example, sports a large, nearly closed, hollow silver bell. Deep within the well of the ring, he has set a sapphire, visible only as a flash when held under direct light. Literally, more is going on than meets the eye.

A lot of the aesthetic energy in postmodern jewelry derives from flirtation with sentimentality. Any homage to the past – even an assemblage of design elements – runs the risk of falling slave to schmaltz, on one hand, or to the ridiculous posture of terminal irony, on the other. When Maroschek's appropriation of imagery from scrap works best, he is able to indulge both the emotional appeal of the original image and the aesthetic qualities of his own design.

A good example of having his cake and eating it too, is a dual ring that contains many of Maroschek's design hallmarks. The external ring is dull, rounded silver with a dark Labradorite stone

Maroschek confesses to having always favored sotto voce design elements, believing firmly that "every piece must have four sides."

mounted on a prong. The design is strong, simple, almost industrial. Literally linked with this forceful modernism is a child's dainty silver ring with a silver heart. The combination of the two extremes permits ironic comments on both the "pretty" and the "modern" design aesthetics. Notably, Maroschek has lined the interior of the large band with highly polished gold – a secret between maker and wearer.

Many of Maroschek's "formal" works, all fabricated from virgin metal, derive their artistic energy from his unconventional ways of setting stones. A ring of silver strands captures a solitaire amethyst in a veritable cage. Maroschek had the nearly finished ring sitting on his bench for months before he could figure out how to complete it – with tiny gold beads on the points of the silver wires making a visual frame for the floating stone. Maroschek cages many stones in his current line of formal jewelry. *Wishing Ring* catches several garnets in the hollow between two layers of metal.

Maroschek's interest in the kinetic aspects of mounted stones extends to his frequent use of golden rods that move freely within a mount. He creates earrings with tiny garnet beads to make stops on the heads of the rods. In rings, the interior stop is usually a gold knob, but the exterior stops are tiny settings for extremely small stones.

Fluent in several languages, Maroschek has synthesized a design vocabulary that engages him in a dialogue with conventional decoration, modernist form, and postmodern commentary. There's no denying his eloquence. ■

facing page:
top left
Bottles for Soap Bubbles
silver, silverscrap, glass, cork

top right
Bottles for Soap Bubbles
silver, silverscrap, glass, cork

bottom left
Bottles for Soap Bubbles
silver, silverscrap, glass, cork

bottom right
Bottles for Soap Bubbles
silver, silverscrap, glass, cork

Patricia Harris and **David Lyon** are writers who live in Cambridge, Massachusetts.

above
Marcel Duchamp
Fountain, 1917
Photograph by Alfred Stieglitz reproduced in The Blind Man, No. 2. (May1917), page 4
Photograph courtesy of the Philadelphia Museum of Art: The Louise and Walter Arensberg Archives and reproduced with the permission of 2000 Artists Rights Society (ARS), New York/ADAGP, Paris/Estate of Marcel Duchamp.

The Problem of the Fountain

text by Bruce Metcalf

Here's my nominee for the most influential piece of art of the twentieth century: a urinal. Not just any urinal, of course, but the one Marcel Duchamp signed "R. Mutt" and called *Fountain*. It's an art world icon; it anticipated the genre now called Conceptual Art by about fifty years; and it poses a nasty problem for craft.

Its history is well known. The story began when, in 1913, Duchamp bought a bicycle wheel and stuck it on a stool. At the time, he made no special claim; he simply spun the wheel occasionally as the thing sat in his Paris studio. The next year, he bought a bottle rack. In 1916, after Duchamp moved to New York City, he wrote to his sister, Suzanne, to ask her to sign his name on the bottle rack, assigning it the status of "readymade" sculpture. All the while, this activity remained private, unannounced, and unpublicized.

above
Andy Warhol
Brillo Box, 1964
silkscreen ink on wood
$17\frac{1}{16}$" x $14\frac{1}{8}$" x $17\frac{1}{8}$"
Photograph by Larry Sanders
Photograph courtesy of the Milwaukee Art Museum, Gift of Mrs. Harry Lynde Bradley and reproduced with the permission of 2000 Andy Warhol Foundation for the Visual Arts/ARS, New York.

Meanwhile, in New York, Duchamp and a number of other artists and aficionados founded the Society of Independent Artists, which was intended to be an exhibition society similar to the *Salon des Indépendants in Paris*. The first exhibit was scheduled to open April 10, 1917. Anyone who paid six dollars could exhibit two works. Even though Duchamp was a director of the Society, he apparently didn't like the organization, and decided to arrange a provocation. So he went to the J.L. Mott Ironworks in Brooklyn, bought an ordinary urinal, and submitted it for exhibition. (The urinal was a "flat-backed Bedfordshire," reputed to be smelly and hard to clean.) Predictably, other members of the Society found *Fountain* to be "immoral, vulgar, and simply a piece of plumbing," and refused to exhibit it. Duchamp and his friend Walter Arensberg promptly resigned from the Society. Beatrice Wood, apparently part of the enterprise, publicized the controversy in the second issue of Duchamp's journal, *The Blind Man*. Meanwhile, the urinal was misplaced, found behind a partition, moved to Alfred Stieglitz's 291 gallery, photographed, purchased by Arensberg, and eventually lost.[1]

And so a revolution began as a prank. It is not clear that Duchamp was entirely serious when he decided that he could assign the status of completed artwork to an ordinary object. And yet, in retrospect, this humble pissoir embodies several ideas that constitute a paradigm for contemporary art.

Most notably, it inverted all the received rules of art making. Whereas high art was supposed to be ennobling, *Fountain* is low-brow and crudely scatological; whereas art was supposed to be the result of much training and work, *Fountain* requires no expertise; whereas the experience of art was supposed to be uplifting and pleasurable, *Fountain* presents a conundrum: how the hell can this thing be art? None of the conventional standards of artistic quality apply to Duchamp's urinal: it's one of the first, and still probably the best, examples of anti-art. The idea that advanced art must be disruptive has stayed with us ever since.

Fountain didn't require fabrication, it required thought. Whatever makes the urinal into art resides not in the object itself, but in what Duchamp is presumed to have thought about it. (And, of course, what has been written about it ever since.) There's no painting here, no casting, no finishing, no messy and laborious craft. As Beatrice Wood notes, "Whether Mr. Mutt with his own hands made the *Fountain* or not has no importance. He CHOSE it. He took an ordinary article of life, placed it so that its useful significance disappeared under the new title and point of view — created a new thought for that object."[2] In a single stroke, Duchamp elevated thinking to the essential ingredient of art, and simultaneously relegated the whole business of making to relative insignificance.

In fact, the object itself isn't really necessary. *Fountain* is long lost; a grainy photograph taken by Alfred Stieglitz has been quite sufficient to change the course of art history. Surely, every art student in the nation knows about the urinal. In 1964, Duchamp himself authorized a series of signed reproductions, which have migrated to museums worldwide. In 1973, Elaine Sturtevant created a substitute original. Since then, Sherrie Levine, Mike Bidlo, Richard Prince, Jeff Koons, Tom Sachs, and many other artists have made similar homages. In one of those great ironies of history, Duchamp's throw-away gesture now stands at the center of modern art: analyzed, institutionalized, and glorified. For better or worse, the pissoir is legendary. *Fountain* is an icon because it summarizes the disruptive tendency of twentieth century art, and because it so neatly foreshadows what is now known as Conceptual Art.

Duchamp's pissoir casts a long shadow. To any informed observer of the art world, it is clear that Conceptual Art influences all aspects of current art practice, from performance art to contemporary craft. Through the 1980s and 1990s, Neo-Expressionism, Neo-Geo, Primary Image, Chaos Theory, and Abject Art all came and went. It seems the only authoritative approach left standing is Conceptual Art, an impression strongly reinforced by magazines like *Contemporary Visual Arts*, and by the curatorial vision of every Whitney Biennial in the past decade. Of course, the art schools have played along. Students across the country are now expected to explain and justify their ideas, and the graduate art programs most closely associated with rigorous theory are generally the most prestigious.[3] And yet, for all its influence, it's not terribly clear what Conceptual Art actually is.

The artist-philosopher, Adrian Piper, has offered a comprehensive and persuasive definition. Writing about artist Ian Burn, Piper suggests that Conceptual Art need not have a particular style, and stresses that it doesn't always replace the art object with written or spoken language. Instead, she examines Sol Lewitt's proposition that ". . . the idea or concept is more important than the object in which it's realized." Piper says that Lewitt was taking

> . . . a Platonic view, that the concept of a particular work — any work, be it sculpture, drawing, text, videotape, whatever you like — is a kind of perfect form to which the realization, the actual work itself, is just an imperfect approximation. Just as Plato distinguished between sensory reality and the world of pure forms, similarly Sol, I think, meant to distinguish an actual art object as a sort of crude sensory approximation of an idea, a concept, that can exist only in the intellect; and then to say that it's the idea, the pure concept of the object, that's important.[4]

Piper notes how liberating this notion of Conceptual Art was because it opened all types of intellectual inquiry to artists: social sciences, natural sciences, humanities, whatever. Furthermore, any medium was permissible, for ideas can be made manifest in any material imaginable. But Piper is adamant that Conceptual Art still demands a hierarchy. As she puts it, "I propose we think of Conceptual Art. . . as being art that subordinates its medium, whatever its medium, to intellectually interesting ideas."[5]

The implications of Piper's formulation are profound. Obviously, she does not exclude the possibility of conceptual craft. But, at the same time, she says that the idea must be more important than any other aspect of the artwork. Material, technique, formal qualities, function, or any other aspect of artwork that cannot be construed as an idea must be less important. According to Piper, if the idea is primary, the medium is subordinated. And the secondary status of medium is important, because the idea must necessarily dictate the medium: the artist should choose the material or form that best

expresses or communicates the idea. Thus, mediums should change to accommodate different ideas. If the idea takes primary importance, *the medium must be disposable*. Piper's conceptual artist cannot be loyal to any medium: she will unhesitatingly sacrifice the medium if her idea demands it. In effect, Piper has proposed a doctrine of disposable medium, which I will return to later.

Piper's definition reinforces Arthur Danto's thesis, which he first advanced in *The Transfiguration of the Commonplace* (1981) and has refined ever since. According to Danto, art is embodied meaning.[6] Danto arrived at his formulation after seeing Andy Warhol's *Brillo Box* in 1964. He was fascinated by the apparent lack of distinction between a real Brillo box and Warhol's sculpture. Presumably, this lack of visible difference threw all previous art theories out of whack, because all those theories relied upon the visual phenomena particular to painting and sculpture, to draw the line between art and the rest of reality. So, what made *Brillo Box* into art? According to Danto, it was because Warhol's box embodied a specific set of meanings, while the supermarket box did not. These meanings would be legible inside a community of like-minded individuals, which Danto called the "art world."

If Danto's thesis is accepted, the exact form of art can no longer be qualified in advance. As Danto says, "Art can be anything at all."[7] In any realistic assessment of art of the last forty years, it's pretty clear that the art world acts as if Danto's thesis is true. Art can be a urinal; art can look like a Brillo box; art can consist of walking around a gallery with your face painted gold, explaining paintings to a dead rabbit. This is the reality of the art world, and it's tough to argue against reality. The medium, the form, the duration of art — all is now mutable and open for exploration. The only remaining qualification is that art should embody meaning.

Danto's thesis dovetails nicely with Piper's definition: art is embodied meaning; conceptual art subordinates its medium to ideas. One could even stretch Danto's thesis a little and suggest that all interesting art IS Conceptual Art. In fact, Danto used to suggest that art should transform itself into pure philosophy, but he has lately disavowed that notion.

I would argue that Art-with-a-capital-A, art that makes it into art magazines and big art museums, art that smells of the present instead of the past — all this art is synonymous with Conceptual Art. Given the infinite mutability of art today, how can it be otherwise? In order to interpret this vast range of enterprises, the only net that can encompass everything is theory, idea, embodied meaning. Otherwise, how do you tell Duchamp's pissoir from those things in the men's room? It's the concept, and the concept alone, that draws the distinction. After all, you wouldn't want to pee into an icon of modern art, would you?

■ ■ ■ ■ ■ ■

For the past 140 years, craftspeople and their supporters have agitated for equality between craft and art. This has been called the "art/craft debate." In the craft world (a term that I use as an exact parallel to Danto's "art world"), most people seem to have assumed that craft can be art and that no further discussion is needed. Everybody says the art/craft debate is tiresome and meaningless. In universities and art schools, one can study "fiber arts" and "metal arts." Publishers certify the equivalence of craft and art by titling books about crafts *The Art of Craft , Art that Works*, or *American Art Jewelry Today*. I recall an entire conference devoted to the presumption that craft had effectively become art: it was called "Crossover," which called up images of pottery, furniture, and jewelry jumping across some line in the sand, finally becoming real art. The battle is won, the fuss is over, and craftspeople can sleep easily at night, knowing they have breached the walls of the golden-gated -city.

And yet, I'm not so sure. I maintain that craft and art are two different things, and that they are not fully commensurate. By this, I mean that craft and art are two largely different practices, with largely different boundaries, and each with a different "yardstick of critical assessment in social and artistic spaces."[8] My argument revolves around two questions implicitly posed by Danto and Piper. First, can craft be anything at all? Second, can craft truly subordinate its medium to intellectually interesting ideas? In other words, how does craft measure up to Duchamp's urinal?

■ ■ ■ ■ ■ ■

There are several meanings for the word "craft" in the modern era. One sense of the word points to skillful labor of any kind, as in the skill of playing a violin or the craft of welding. Craft also can suggest a class of objects, and is used this way in *American Craft Museum* or *British Craft Council*. I use the word in this second sense. However, it's not a precise category.

Craft is very fuzzy around the edges: there's no clear line between craft and not-craft. I think craft,

as a class of objects, must be seem in terms of degree, rather than a matter of black and white. First of all, craft must be an object, a real thing of weight and substance. Second, these objects must necessarily be made largely by hand. While observers in the twentieth century accept the use of machines in craft production (such as table saws or power rolling mills), objects made substantially by machines (such as computers) or on assembly lines (such as athletic shoes) do not usually qualify as craft. Craft can also be identified by an accumulation of four other factors: one, the use of traditional craft media (such as clay, glass, or fiber); two, the use of traditional hand technologies associated with such mediums (for example throwing clay, blowing glass, or raising metal); three, the use of traditional craft functions (for instance, jewelry, pottery, or furniture); and, four, reference to the history of craft objects themselves (such as Sung Dynasty ceramic vases, or Coptic textiles). This list of four factors serves as a checklist for degrees of "craftness": the more of the list an object incorporates, the more craft (as-class-of-object) it is.

Anne Wilson (in collaboration with A.B. Foster)
Told and Retold, 1998
sound installation

(An aside: I should point out that function is not on my list. For any number of reasons, observers have seen craft's usefulness as central to its definition.[9] And yet, even a cursory study of historical craft objects shows that function was never a central defining characteristic: think of textiles woven only for display; of massive silver centerpieces made only to be seen; or of whimsies created by craftspeople after the workday was through, such as the blown glass bells made in the Ohio Valley glass factories. And, of course, uselessness is a signature of most contemporary craft that aspires to the status of art.)

Discerning shades of craftness is accurate and useful. After all, one of the central enterprises in contemporary craft has been expanding the traditional boundaries. Craftspeople have employed new materials like plastics and synthetic fibers, along with non-traditional technologies like electroforming and computer-aided machining. Similarly, many craftspeople make sculptures (although this is not new at all), and many craft objects do not refer to historical material. The resulting objects have been widely understood to be craft, as in Stanley Lechtzin's acrylic and copper electroform torques, or Lenore Tawney's *Cloud Series* of architectural installations. At the same time, some craftspeople have remained committed to very traditional materials, techniques, and usages. Pure pottery remains a vigorous part of modern ceramics, just as Windsor chair-makers and Harris tweed weavers continue to thrive.

However, my formula of two basic criteria plus four additional factors suggests an important conclusion: craft has limits. Some things just aren't craft.

For instance, Clark and Hughto show a photograph in their book, *A Century of Ceramics in the United States 1878 -1978*.[10] It's Jim Merlchert's last claywork, called *Changes*, in which the participants dunked their heads in clay slip, and then were videotaped while the slip dried at different rates. The piece typified many of the concerns of avant-garde artists at the time: making artwork that was ephemeral and thus difficult to commodify; using the body of the artist as raw material; or incorporating duration and transience as necessary parts of the work. *Changes* is a performance, with clear aspirations to being understood as high art. The only possible connection to craft is the use of slip, but it's a tenuous connection indeed. Otherwise, hand fabrication is not employed — nor are any traditional ways of manipulating clay, nor is there any reference to ceramic history. It's not even an object. In the end, I fail to see how this performance is craft in any meaningful way. It may be art, but it's not craft.

A lot of other things aren't craft either, from Nike athletic shoes to exercising a dog, or from painting on canvas to Bill Viola's installations. My point is this: the response to Danto's implicit question "Can craft be anything at all?" is no. Craft cannot fully partake of contemporary art's infinite expansion into all aspects of life. While Duchamp and his followers could point to absolutely anything and declare it to be a Readymade work of art, the same maneuver cannot be accomplished in craft. Craft is a limited field. Crafts have to be *made*, crafts have to be *objects*, and crafts usually must have some connection to traditional materials, techniques, and histories. Being necessarily limited, craft is thus not fully commensurable with art. It is philosophically different. Like it or not, craft and art are somewhat different things.

The question implicitly posed by Piper's definition of Conceptual Art offers a further illumination. If art (specifically Conceptual Art) and craft were truly interchangeable, craft could "subordinate its medium, whatever its medium, to intellectually interesting ideas." Craft practitioners would then serve one and only one master: the idea. However, it's my contention that the primary cause in craft practice is the labor, not the idea.

I come to this conclusion from extended observation of craft education and culture. It's no secret that the majority of present-day craft practitioners were first exposed to their craft in an educational institution. As a teacher for the past twenty-two years, I have watched hundreds of perfectly ordinary students walk into teaching studios. Some students — not all — awaken. They discover something that changes their lives, and a few go on to make a lifelong commitment to their chosen discipline. I am absolutely convinced that this awakening is to the working of a material, and not to "intellectually interesting ideas." Students respond first and foremost to the material in their hands.

Most crafts teachers realize that students intuitively gravitate to a particular studio: there are clay people, fiber people, metals people, glass people. Some students recognize an affinity to a one material, and these are the ones who major in the subject. I suspect that this process of discovery is closely linked to "bodily kinesthetic intelligence," the aspect of mind that controls both fine and gross motor skills.[11] What we used to call talent may be a genetic predisposition to respond to certain basic materials. This predisposition appears as both a fascination with and a gift for working in a particular material. I think all jewelers will understand precisely what I mean here, for they have experienced the same thrill of recognition themselves. While my proposition may seem, at first, far-fetched, consider that everyone assumes that both Einstein and Stravinski were gifted. Only a few individuals will show a talent for mathematics, or for music. Similarly, only a few will show a genuine aptitude for any craft medium, and these talents are most likely genetically endowed, not learned.

An awakening to the possibilities of working a particular material is only the beginning. In a sense, all mature craftspeople have served an apprenticeship: they spent years learning how to control their chosen medium. The learning process is slow, sometimes tedious, and often difficult. The individual who endures the apprenticeship used to be called a master, but Peter Dormer's idea of tacit knowledge is more useful.[12] Tacit knowledge comes only from practical, hands-on experience, and cannot be learned simply by reading or recitation. It takes a lot of practice to learn how to solder with confidence, how to blow a thin glass vessel, or how to cut a perfect dovetail. This knowledge resides in the person, and recent research suggests that it consists of permanently altered neural pathways. In effect, it's equivalent to the first definition of craft that I offered: skillful labor.

Tacit knowledge can have an emotional component. Skilled work brings its own pleasures, often experienced as contentment and an altered brain wave pattern.[13] More important, I think, is the fact that craftspeople often develop an intense loyalty to their chosen medium. Their identities are completely wrapped up in their work: Kurt Matzdorf is utterly dedicated to silversmithing; Jack Troy lives, eats, and breathes pottery. It's difficult to describe the profound commitment that some men and women feel for their craft, but an extended conversation with any one of them will reveal how deeply loyal they are. It's as if the difficulty of mastering the craft is rewarded by internalization: not just the skill, but also a sense of attachment, historical place, and an urge to pass the knowledge along to younger generations. In an era when we expect young people to be alienated and adults to despise their jobs, the voluntary loyalty devoted to craft is quite remarkable.

Most of those men and women who make jewelry or weaving or ceramics into their life's work, never give it up. I take this extraordinary dedication as evidence that the craft — the tacit knowledge and the emotional attachment to it — precedes all other considerations for the craftsperson. To paraphrase Adrian Piper, I propose we think of the craftsperson as being a maker of objects who will not subordinate his or her medium, whatever the medium, to intellectually interesting ideas. I believe that loyalty to medium is a basic characteristic of craft culture. And as such, loyalty to medium defines a fault line between art culture and craft culture. Recall Piper's implicit doctrine that medium must be disposable, and compare it with the loyalty of the craftsperson to medium. As

Richard H. Reinhardt
Snakey Leaves, 1995
sterling
27 1/2" long
Photograph by Thomas Brummett

concepts, they are mutually exclusive: one can subordinate medium to idea, or idea to medium, but not both.

I should make one point clear: this definition does not exclude craftspeople from engaging ideas. Far from it. But it does clarify an essential part of craft culture: many people won't give up the craft they have labored so long to acquire. Their emotional commitment wouldn't allow for it.

(As I write this, I can already hear the complaints, so I offer three clarifications. First, by drawing this distinction, I am not making a qualitative judgment: I adamantly do not think that being an artist is better than being a craftsperson or vice versa. I am proposing a clear difference. Second, this proposal applies to mature practitioners, not to students who have not yet made a commitment to a life in craft. And third, a craftsperson's loyalty can extend beyond a specific medium, to include a sense of craftsmanship that can apply to more than one craft discipline.)

In contemporary crafts, the idea of making Art-with-a-capital-A is tremendously attractive. When I ask my undergraduate students what they are, every single one answers, "Artist." This is not surprising. They attend an art school; their teachers generally call themselves artists; and the idea of being an artist is far more prestigious and respectable than being a craftsperson. There are thousands who think that the only proper ambition for a craftsperson is to become an artist. So, everyone agrees. It's "art jewelry," "fiber art," "art furniture," and "art glass." The problem is that if craft is really art, it must be compared to all the art that is out there. Those people who claim to be making art/craft have a lot of explaining to do. Craft must be held up to twentieth century theory, because art is inescapably bound to its discourses. In the present environment, when art is almost synonymous with conceptual art, craft must stand next to Duchamp's pissoir, and answer for itself.

The answer says more about craft's difference than its similarity. Craft can't be anything at all, and thus craft is not fully commensurable with the broadest conceptions of art. Furthermore, craft is permeated by the loyalty of its makers to material and process. In my opinion, any attempt to offer a persuasive argument for craft in the new millennium must take these two properties into account.

My argument depends on the assumption that there is no middle ground – that there is no intellectually rigorous artform that can also insist on loyalty to a medium. The case of painting is instructive. For the last thirty years, painting has been subject to intense scrutiny. Painters have been called upon to justify the continued use of a pre-industrial technology and, in some cases, a demanding skill. The question goes something like this: is painting a better medium for the communication of ideas than any other? I can think of no persuasive explanation that was advanced, and nobody has shown that applying paint by hand to a substrate is any more (or any less) suitable as an art medium. Generally, painting is now seen as one option among many. And the idea of loyalty to painting remains unexplained, even when it is raised. The upshot is that painting, in a delicious irony, has been demoted from its former status as "queen of the arts," and the discipline has become rather marginalized. (Almost like a craft!) Painting now seems to be perceived as a way to generate fantastic images, as in the weird women of Lisa Yuskavage, or a vehicle for fey gestures like Damien Hirst's spin paintings. In either case, commentary focuses on the concepts that are embodied in the images, not on the possibility that the paintings have any particular characteristic that could be manifested only by the process of painting. So, for the moment, the literature suggests that the art world finds any middle ground highly suspect.

■ ■ ■ ■ ■ ■

So, every craft practitioner faces a choice: What comes first? Does one follow the prescription of Adrian Piper, and put intellectually interesting ideas in first place? Or does one remain loyal to one's chosen material and techniques? Which one is sacrificed?

I believe the majority of craft/art practitioners want to have it both ways. They want to appeal to the intellectual rigor of art discourse, but without having to submit to it themselves. The quandary posed by Piper remains unsolved: if you truly practice a Conceptual Art — which is to say, any theoretically persuasive art in the present artworld environment — then you must answer the question, "Would you subordinate your medium to interesting ideas?" Avoiding the question makes the practitioner appear wishy-washy, wanting to have your cake and eat it, too.

Anne Wilson presents a case study of a craftswoman who confronted Piper's question. Wilson came from a fiber arts background. She learned how to weave and dye and stitch, and she is an authority on ethnic clothing traditions. Her work made it to the cover of *American Craft*,[14] affirming her prominence in the craft world. But her interest in one material, hair, eventually led her to discard the techniques and formats typical of craft. Wilson's recent collaborative installation (with A. B. Forster), called *Told and Retold: An Inquiry about Hair*, is not craft in any meaningful sense. Its form,

execution, range of reference, and ambition clearly announce it as art. When presented with the choice between idea or medium, she gave up her loyalty to craft. I imagine that she would have no argument with Piper. She calls herself an artist,[15] and I am convinced.

However, Piper's question can be answered another way: one can refuse to subordinate medium to idea. I believe this is the craftperson's choice, and it has its own integrity. One can assert one's loyalty to a medium, and proceed to adjust or modify ideas to fit the medium. Furthermore, such loyalty is both intellectually honest and usually visible in the work.

One of the many craftspeople who made this choice was the jeweler Richard Reinhardt. In a retrospective exhibition of his silver work,[16] I could easily detect his respect for his medium. His craftsmanship was superb, and his forms were developed directly from the process of fabricating them. Each piece would move with its wearer, but they were never intrusive on the body. Reinhardt's restless curiosity about form, reflectiveness, linkages, and motion was obvious. It was wonderful jewelry, even though Reinhardt wasn't terribly concerned that his jewelry be seen as Art. In the end, all of Reinhardt's work was emphatically craft, and none the worse for it.

Reinhardt tailored his ambitions to his medium. I do not think it is an insult to his memory to say that his jewelry cannot be compared at every level with art as Piper and Danto conceive it. While the jewelry clearly embodies Reinhardt's attitudes toward his craft, his clients, and his sense of responsibility as a citizen of the modern world, the objects cannot be seen as Conceptual Art. They are not as scholarly as Piper might demand, nor do they trade in theory. To me, Reinhardt's jewelry was so much an object, and so clearly evident of his concern for his craft, that Piper's "pure concept of the object" had only a secondary value. Reinhardt illustrates the philosophical difference between craft and art. He was a craftsman, and a good one. Again, I was convinced.

To the degree that craft intends to take a place alongside of art, craftspeople must assemble a cogent explanation of what craft is, and why. If craft and art are not fully commensurate, as I claim, then this explanation must focus on the differences between craft and art, not their similarities. Those similarities (formal qualities, theoretical stances, etc.) cannot explain why a craftsperson should choose to limit her creative project to a particular medium, nor do they explain the profound emotional bond that experienced practitioners feel for their work. Until these differences are explained, the legitimacy of craft will continue to be questioned. And once we understand exactly how craft and art are not fully commensurate, then we can make persuasive claims for the place and purpose of craft as a distinct creative enterprise. ■

Bruce Metcalf is a jeweler and occasional writer on craft. His next article for Metalsmith will propose a theory of craft.

1 This history was taken from three sources: Varendoe and Gopnik, *High & Low: Modern Art and Popular Culture*, Museum of Modern Art, 1990; Naumann with Venn, *Making Mischief: Dada Invades New York*, Whitney Museum of American Art, 1996; and Mink, *Marcel Duchamp 1887 - 1968: Art as Anti-Art*, Taschen, 1995.

2 *The Blind Man*, 2 (May 1917).

3 Among them: UCLA in visual art, The School of the Art Institute of Chicago in fiber arts, and SUNY New Paltz and Cranbrook in jewelry/metals. For a skeptical view, see "How to Succeed in Art" by Deborah Soloman, in *The New York Times Magazine*, June 27, 1999.

4 Piper, Adrian. "Ian Burn's Conceptualism," *Art in America* December 1997: 74.

5 Piper. 75.

6 For a brief summary of Danto's thesis, see his introduction to *Embodied Meanings: Critical Essays and Aesthetic Meditations*, Farrar Straus Giroux, 1994.

7 Witnessed by the author at a speech by Danto at the University of the Arts.

8 From an essay in which Danto raises the issue of commensurabilitry: "Quality and Inequality," in *Embodied Meanings*, page 340.

9 For a recent example, see Howard Risatti's essay "Metaphysical Implications of Function, Material, and Technique in Craft" in *Skilled Work: American Craft in the Renwick Gallery*, Smithsonian Institution, 1998.

10 Published by E.P. Dutton in 1979. The picture is on page 207, accompanying text on 198.

11 See Gardner, Howard, *Frames of Mind*, Basic Books, 1983. For a more detailed exploration of bodily-kinesthetic intelligence and its implications for craft theory, see the author's chapter "Craft and Art, Culture and Biology" in Dormer, Peter, ed. *The Culture of Craft*, Manchester University Press, 1997.

12 Dormer, "Craft and the Turing Test for Practical Thinking." Dormer. 137.

13 See Csikszentmihalyi, Mihael, *Flow: The Psychology of Optimal Experience*, Harper, 1993. Among jewelers, Carrie Adell has been a strong advocate for the transformative power of absorbed work.

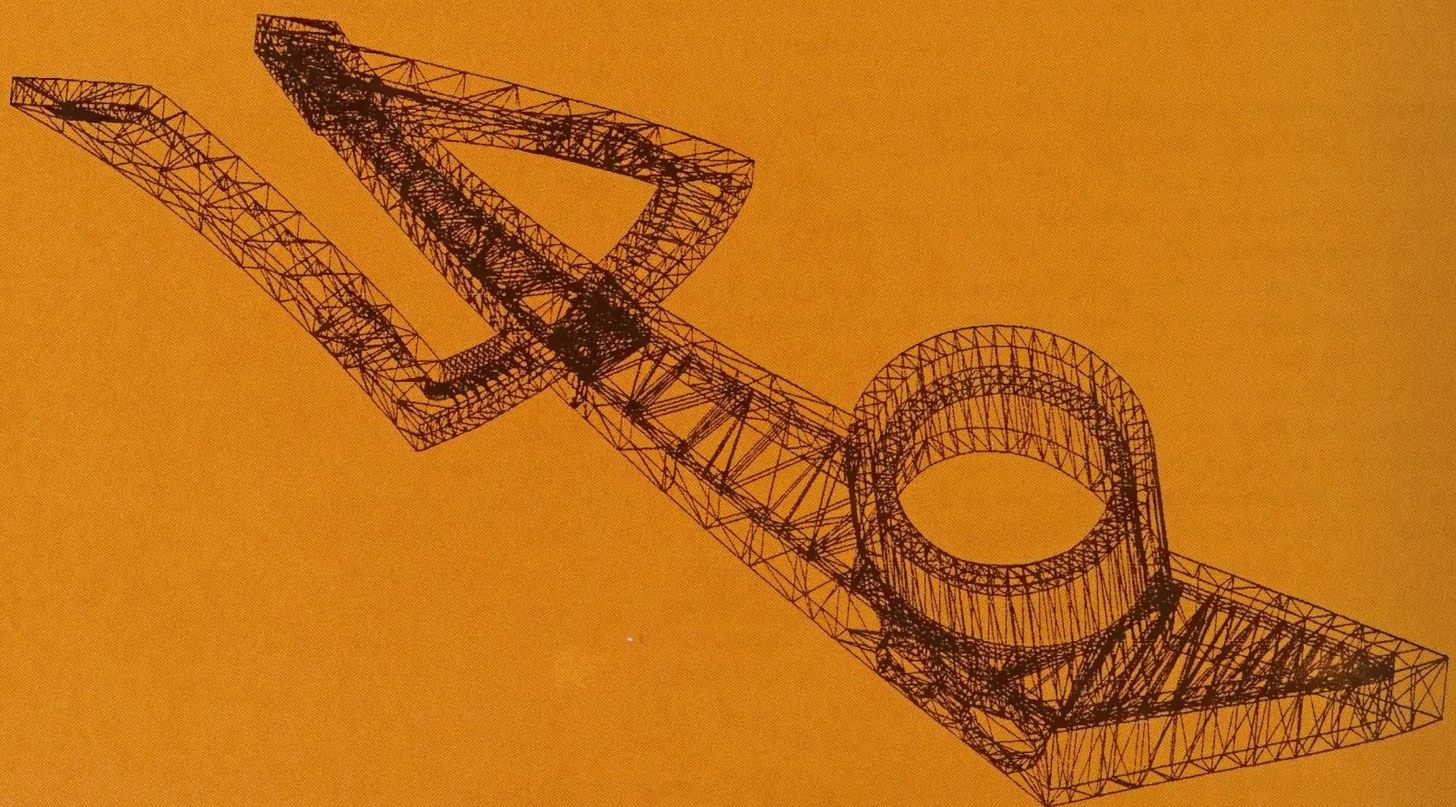
14 Spector, Buzz. "Anne Wilson: Urban Furs." *American Craft* February/March 1988.

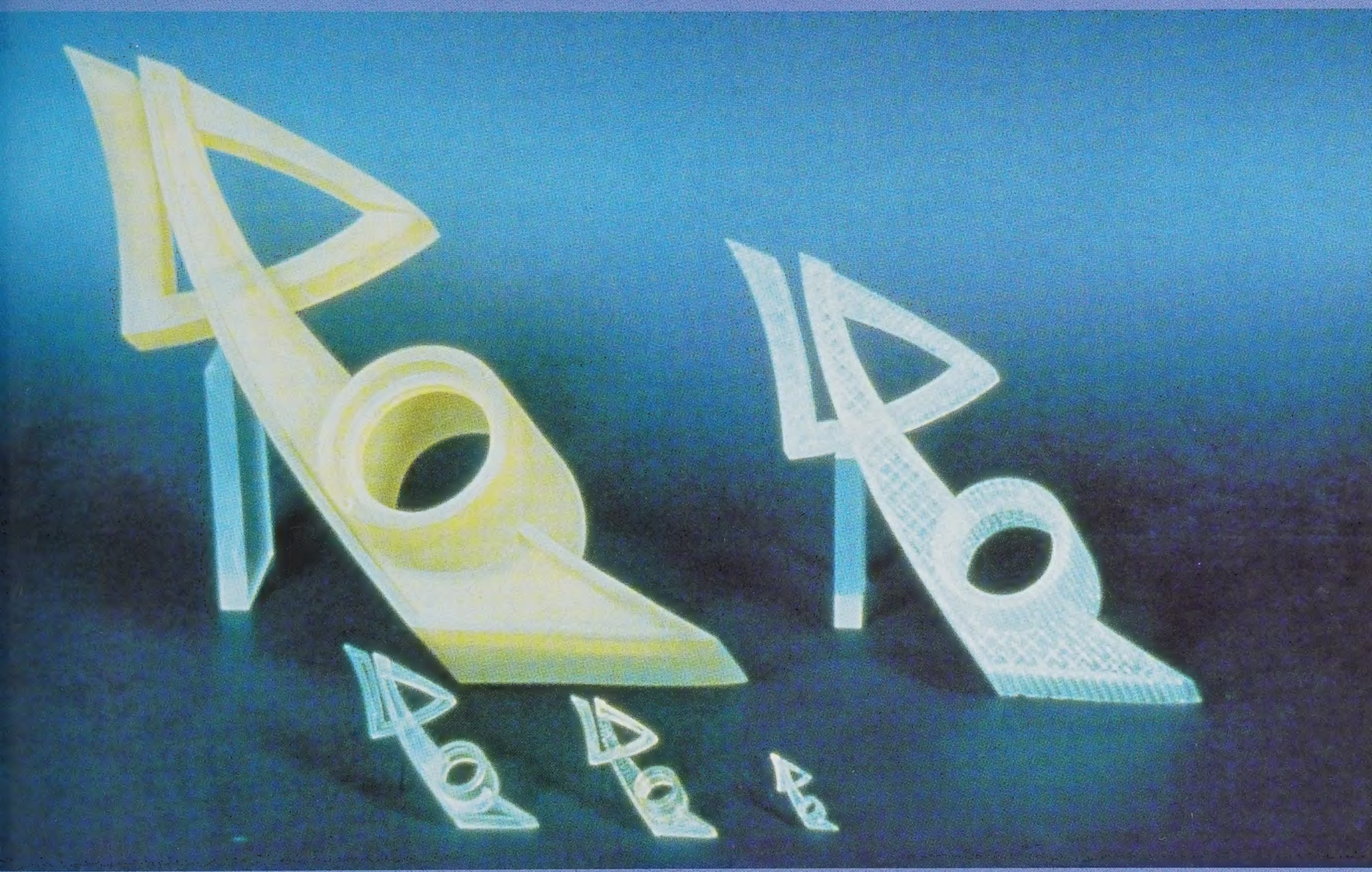
15 In conversation with the author, March 27,1999.

16 *Richard Reinhardt: Full Circle*. Rosenwald-Wolf Gallery, The University of the Arts, Philadelphia, March 20-May 8, 1998.

Building Bridges Between Art and Technology: Rapid Prototyping and Manufacturing

text by Staci Kerman





Introduction

Part to Art

My interest in building bridges between art and technology has inspired mutual collaborations with industry professionals in Rapid Prototyping and Manufacturing (RP&M). This two-year exploration has involved working extensively with stereolithography (or three-dimensional printing), which provides the direct development of physical objects from graphical computer data.

Understanding this process as a product designer and creator of jewelry using traditional materials and methods, I was excited about the opportunity to explore the use of stereolithography as an additional tool to visualize and refine my designs. What began as an endeavor to reproduce a design using the latest technology ended up being a discovery of its many capabilities: which include greater accuracy, scale manipulation, and textural benefits, as demonstrated throughout this article.

At one time, designers and engineers were confined to blue prints or CAD (computer aided design) renderings to communicate an idea. With the growth of new technology, the first SLA 250

facing page top
Figure 1.
CAD wireframe drawing of brooch design constructed of small planar triangular facets that define each surface

facing page bottom
Figure 2A.
Brooch scale prototype in comparison to on-screen three-dimensional model with supports

this page
Figure 7.
Various scales of prototypes ranging in length from 1" to 18"

Series, was pioneered by Chuck Hull and 3D Systems in 1988 in Valencia, California. This gave designers and engineers a cost-efficient method to produce a three-dimensional representation of a product or part that effectively communicates the design idea. Individuals are not limited to investing large amounts of money for machines, which range from $99,000 - $250,000, depending on model series and configuration or on operating software, with a steep learning curve.

Service bureaus, such as Conceptual Realities (Walled Lake, MI) and Pinnacle Technologies (Roseville, MI), with whom I worked, will now produce your part from disk, tape, or e-mail for approximately $125 for a prototype with an area of 1/2" by 2" by 1/4", plus an additional $40 per hour to generate a CAD file of a design for mass production or visualization uses. Certain cost efficiencies can be reached by generating multiple protoypes at one time.

Rapid Prototyping and Manufacturing technology has already been utilized in numerous engineering prototype and manufacturing applications by leading companies in the automotive and medical fields. Other industry leaders include Xerox, Hasbro, Tupperware, Texas Instruments, and many more. Companies throughout the United States and other parts of the world are quickly adopting this new technology to dramatically reduce costs and time-to-market, as well as to maintain a competitive advantage in the marketplace.

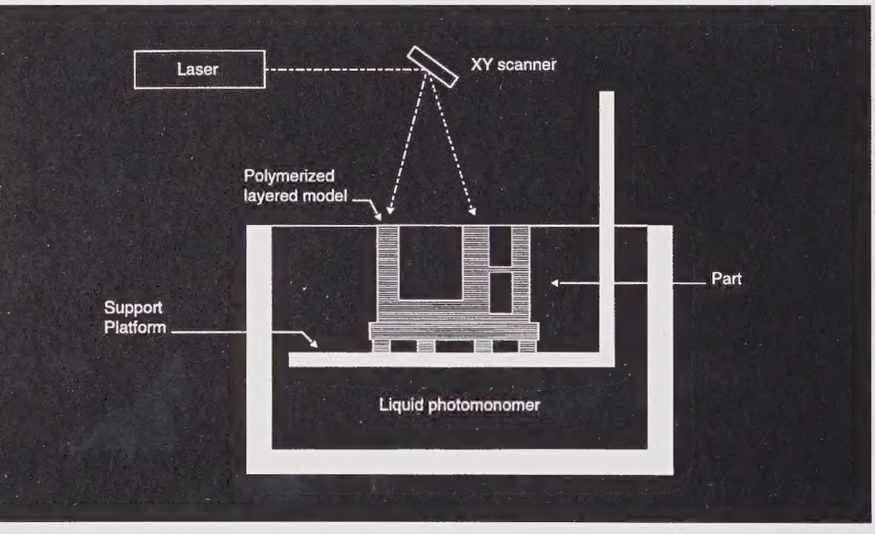
The Process

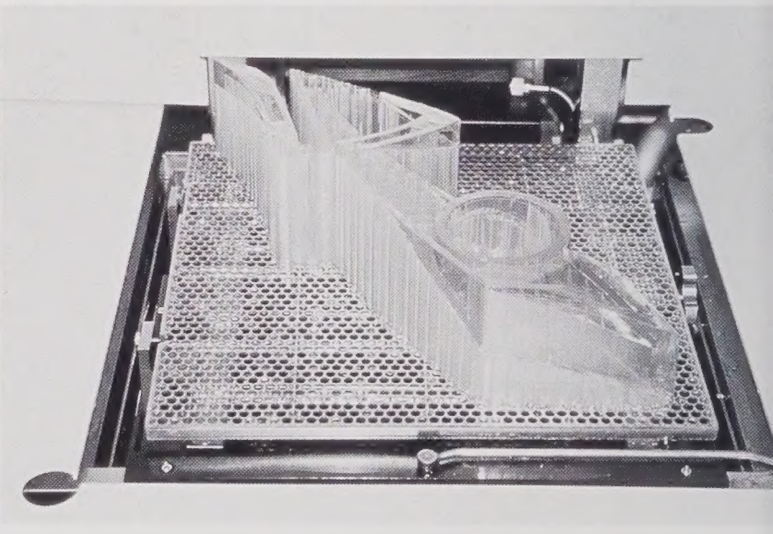
I became involved with stereolithography and its many benefits while working on a brooch design. It was at this time that I turned to the computer and its ability to handle precise three-dimensional modeling. The process that I used for creating a digital file, for transfer to the Stereolithography Apparatus (SLA), began with a two-dimensional wireframe of a brooch design. In my case, it was built by imputting the dimensions of the brooch into Power Draw, a technical drawing program running on a Power Macintosh computer. Once the two-dimensional frame was complete, the Power Draw document was imported into Form Z and was given depth to complete a three-dimensional wire frame that was viewable from any vantage point.

The data was then saved in the .stl file format that was specifically designed for the SLA. This file format was a significant breakthrough in RP&M. It allows CAD data to communicate to stereolithography systems a faceted representation of the exterior surfaces of the part. The faceting process involves sets of small planar triangular facets that define each surface (figure 1, page 36). Because most CAD systems use a faceted representation, the introduction of the .stl format was easily integrated within current systems.

left
Diagram 2.
Cross-section of stereolithography apparatus indicating the location and direction of the laser

right
Figure 3.
Partial build of brooch with attached supports





After the .stl file containing the three-dimensional wireframe of the brooch design was saved to disk, it was taken to the Engineering School Material Science Department at the University of Michigan, where I worked on a 250 Series Stereolithography Apparatus. Once the CAD data had been created, the information was transferred to an SGI (Silicon Graphics Indigo) computer.

At this stage, supports were added to the brooch with the help of Vista software, developed by 3D Systems. These structural supports connected the brooch to a perforated metal tray submerged in a vat of liquid polymer resin. After the support structure was complete, the orientation and

number of models on a 10" by 10" tray (standard on all SLA-250 Series) was determined.

The SLA works by physically building one layer from .002" to .006" thick at a time. Using an ultraviolet laser beam, the SLA traces each cross section of the object into a vat of photosensitive liquid polymer. This liquid plastic then hardens only where it is touched by the laser beam. The tray then lowers slightly to allow the application of a new liquid layer over the previous solidified one. The next contour is drawn by the laser, essentially building the part from the bottom up (diagram 2, figure 3, page 38).

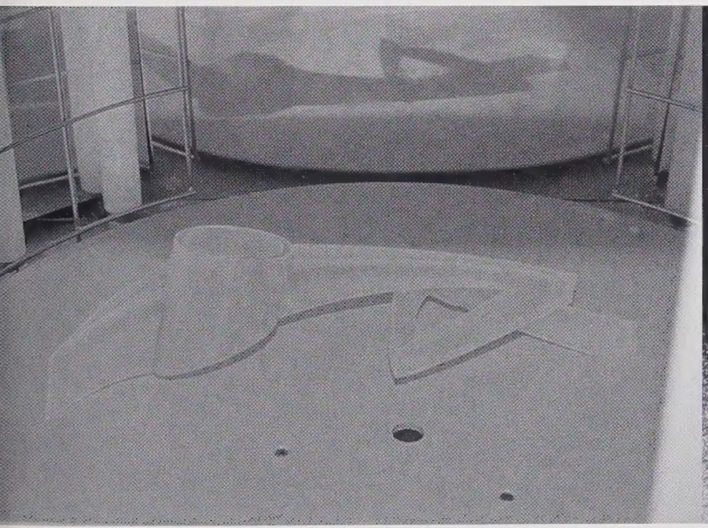
Once the model was complete, the tray rose above the surface and was removed from the machine. Cleansed with isopropyl alcohol to remove excess resin and later flushed with water to remove the alcohol, the part was then removed from the metal tray and the supports were carefully removed from the model. After drying, the prototype was placed onto a circulating tray in a post curing apparatus (PCA) for about an hour. This PCA delivered a broadband or "continuum" ultraviolet (UV) radiation. This completed the polymerization process and improved the mechanical strength of the prototype (figure 4, below right). When the resin finally cured, it had a specific gravity of 1.15 grams per cubic centimeter, which is similar to that of jewelry casting wax.

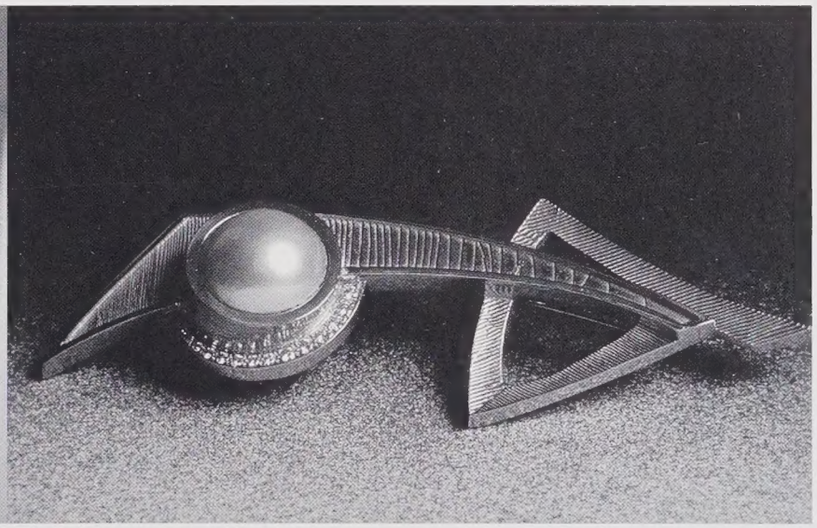
The object orientation of the brooch directly affected the location of the "stair-step" texture created when each layer was built. Rapid Prototype models are often sanded down to a smooth finish, which eliminates this texture. An acrylic-based, gray lacquer primer can be applied to the exterior surface to fill some of the shallow gaps and reduce the amount of finish sanding needed to achieve accurately smooth planes. One of the several advantages to this material is that it has a higher melting point than commonly used plastics and can be easily sanded efficiently without gumming up tools. For my design, the original stair-step texture was used as an element complementary to the overall brooch design (figure 5, below left).

The original resin model could not be cast as residue is left behind when the model is burned out in the kiln. To avoid such problems, I worked with Quality Casting Co. in New York, NY, to have a silicon rubber mold made of the original. The first prototype was unsuccessful, as the side walls of the design were too deep and narrow, which caused excess rubber to be trapped in tight areas. This resulted in extremely heavy objects that were uncomfortable to wear, when the wax models were cast in metal. Therefore, the design needed modification to avoid further difficulties. The design was carefully reworked in both Power Draw and Form Z to reduce the depth of the interior walls. Though great care was taken to ensure exceptional results, the model was inadvertently printed much larger than intended, as the computer program defaulted to centimeters and the setting should have been changed to millimeters.

left
Figure 4.
Model on circulating tray in post-curing apparatus that delivers broadband ultraviolet radiation

right
Figure 5.
Brooch
18k, mabe pearl, diamond
(note "stair-step" texture created by process)
5 x 1 x 3 3/4"

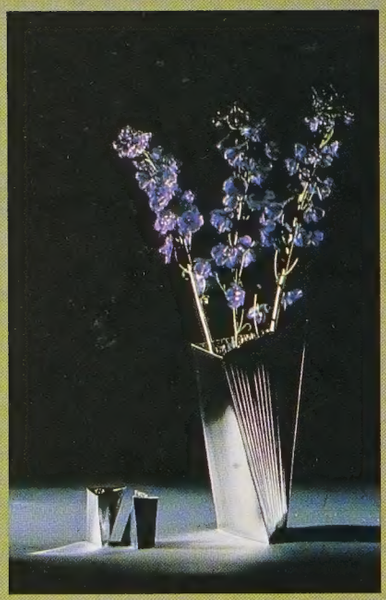




Exploration in Scale

This unplanned mistake brought the realization of many new possibilities. My original design could be modified in scale to accompany a range of various tasks.

At this time, I was introduced to Applications Engineer Shannon Bosworth from 3-D Systems (Farmington Hills, MI). His interest in my applying conventional stereolithography techniques to



create jewelry led to a partnership in the exploration of scale and development of various prototypes. We took the original brooch design and scaled it down to a size relative to that of an earring and further yet to the size of a tie-tac. The quality and clarity of all three scales were equally impressive and extremely accurate.

The three finished models were again sent to Quality Casting Co., where silicon rubber molds of each were made. These molds were injected with wax, and the wax was cast in various precious metals. The results of the scale manipulation yielded a series of pieces that exemplified the diversity of a single design (figure 7, page 37). My background in sculpture led to further exploration of scaling the brooch design to the maximum capacity allowed by the SLA 350 Series machine. The completed model proved that the design could hold even in a large-scale without loss of quality.

With this in mind, the model was further developed through a collaboration with Pinnacle Technologies service bureau. A silicon rubber mold was made of the large scale model through a special tooling process. This process uses an advanced vacuum casting system of the SLA master to create a high-quality, dimensionally accurate mold that can be used to cast in various materials, including urethane and epoxy-based materials. Multiple urethane casts were made and later combined to create a wall sculpture.

facing page top left
Figure 9.
Aside from minor differences characteristic to each utilitarian object, the overall form remains the same

facing page top middle and right
Figure 16.
Original stereolithography prototypes before sanded and dyed with finished necklace

facing page bottom
Figure 12.
Laser scanned pendant designs: original, protype, chrome-plated, and 22k gold-plated over plastic models

this page
Figure 18.
The light-weight necklace is extremely comfortable and surprisingly durable considering its plastic material

A New Direction

After becoming aware of this process and the advantages of multiple scaling capabilities, the freedom to take a single design and replicate it at different scales inspired the creation of a new series that would successfully function at two sizes. This series was comprised of both a set of salt and pepper shakers at a reduced scale and a handless beverage pitcher on a large scale. Aside from some minor differences characteristic to each utilitarian object, the overall form remained the same (figure 9, left).

The salt and pepper shaker design was first sketched on paper and then constructed in cardboard to visualize the dimensions. This design was drawn in a CAD program using Materialize software on

a PC-based platform. A second version was then drawn, with the bottom becoming the top by essentially flipping it upside down. Several small holes for the release of the salt and pepper were added to the tops. Larger holes, which were later plugged with rubber stoppers, were added to the bottoms. The two versions were then built on the SLA at 3D Systems.

The computer was then used to draw another version of the form to make the pitcher. It was shelled out to leave a uniform wall thickness throughout. Along with slicing the top open, it was also slightly elongated to allow a comfortable fit in the hand when pouring.

A second pitcher was built on the same machine, only this time it was built with a honeycomb structure called Quick Cast. This is a software driven program by the SLA machine that involves drawing the exterior edges, leaving the inside hollow. Once the process is completed, the liquid resin from the interior regions of the part is drained. The resultant prototype was approximately 80% hollow, with a complete exterior skin surface that defined the geometry to a high degree of detail. The greatest advantage of this process is the ability to directly cast without the need of a mold. The only disadvantage of this investment casting method is that a duplicate must be made once the original has been burned out if any additional parts are needed.

Specialized foundries, such as BarronCast (Oxford, MI), with whom I worked to cast the pitcher in aluminum, are knowledgeable and equipped to handle the Quick Cast method. They utilized the ceramic shell investment casting process, which involved adding sprues and a gating system to the part. The model was then dipped into a ceramic slurry, which dried between coats before stucco sand was applied to its outside surface. Using a flash furnace, the inside model was burnt out at approximately 1800 degrees Fahrenheit. Once the ceramic shell mold had cooled, any remaining ash from the inside of the shell was removed. After immediately re-firing in a furnace, molten metal was poured into the mold. Finally, the ceramic shell was removed and the aluminum pitcher was complete, except for some required finishing work.

Each discovery along the way led to others. My next discovery involved utilizing a reverse engineering technology referred to as laser scanning. This is an additional way to develop three dimensional data for the SLA. I had a few existing pendants that proved to be great applications for this process (figure 12, page 41).

The pendant designs were mounted to a sturdy base using ordinary craft glue for easy removal. In order to provide a good reflective surface for the optical scanner, a thin coating of talc was sprayed on the pendants. The optical scanning system used was the COMET 100, manufactured by Steinbichler GmbH. This system uses white light to project a series of lines on the object while numerous digital images are taken. During the seventy-second scanning time, the system is able to measure over 400,000 individual points on the surface. Because the scanner utilizes a digital camera, it can only measure the area which it can "see." In order to measure the entire object, several scans of the pendents were taken from different angles. The scans from different viewing directions were joined together in a software package called Polyworks. This registration was made possible by the overlapping area between adjacent scans. The points were then converted into separate polygons that defined the pendant. This procedure essentially connects the dots between the measured points, creating a surface "skin" that can then be converted into .stl data.

With the new data, Shannon Bosworth and I were able to mirror the pendant designs to create earrings. We were also able to manipulate the scale of the models and eliminate the initial, time-consuming CAD drawing before building the three-dimensional prototype.

It was at that point, that I learned about Associated Electroplaters (Hazel Park, MI). They not only chrome plated the models that originated from the laser scanning but they also plated the solid pitcher and salt and pepper shakers. As an added advantage, they were able to 22k gold-plate some of the pendants. All of this plating was done directly over the plastic prototypes. Most of the parts were sanded before plating to remove any unwanted texture caused by the build process. The pitcher, however, was left partially unsanded on one side, leaving a desired texture. The chrome plating of these designs exceeded all of my expectations in creating fully functional finished products.

Throughout this research project, my appreciation grew for the plastic material itself. This inspired me to experiment with creating wearable pieces from the actual prototypes. To my surprise, the parts absorbed Rit Dye successfully without damage to the structural integrity of the plastic material. Submerging the plastic part in the dye and controlling the time of exposure directly affects the color hue and degree of translucency (figure 16, page 40).

My final piece used one of the scanned pendant designs to create a choker necklace. The data was used to build eleven duplicates on the SLA at 3D Systems. These .stl parts were dyed blue with the process described earlier. Next, holes were drilled so they could be sewn together using a dyed plastic cord. Sterling silver accents were added to fill holes that were in the original scanned form. The light-weight necklace is extremely comfortable and, considering its plastic material, surprisingly durable(figure 18, page 41).

Conclusion

My enthusiasm about exploring a new alternative to traditional design methodologies led to the opportunity to collaborate with many skilled and talented professionals. What began as an endeavor to reproduce a design utilizing the stereolithography process ended up being a discovery of many beneficial applications, some of which include the ease of scale manipulation, duplication, and the efficient production of mirrored forms. The level of accuracy and the lack of limitations with regard to form have been tremendous advantages as well. The plastic material has proved to be a remarkably versatile medium to work with, as it can be sanded, dyed, welded, plated, cast, molded, and polished. The stair-step texture, a by-product of the build process, is an asset and is yet another exciting discovery.

Industries are continually becoming technologically revolutionized. Jewelry manufacturers and artists should take advantage of the latest technology to stay competitive. This computerized technology is possibly one of the most significant advancements of the twentieth century and will soon become the future of progressive manufacturing. ■

A very special thanks to the following persons and their organizations who have made this endeavor possible: Shannon Bosworth, Allen Brady, Drew Brown, Jason Channel, Gabriel Chu, Dan Erickson, Dennis Fogle, John Halloran, Ph.D., Robert Hamood, Amr Hawas, Mark Krecic, Carl Morfino, Drew Vanhecke, Merlin Warner, Henry Wede.

Staci Kerman is a metalsmith who lives and works in Ann Arbor, Michigan.

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Books:

Jacobs, Paul F., Ph.D. Rapid Prototyping & Manufacturing: Fundamentals of Stereolithography. Dearborn: Society of Manufacturing Engineers, 1992.

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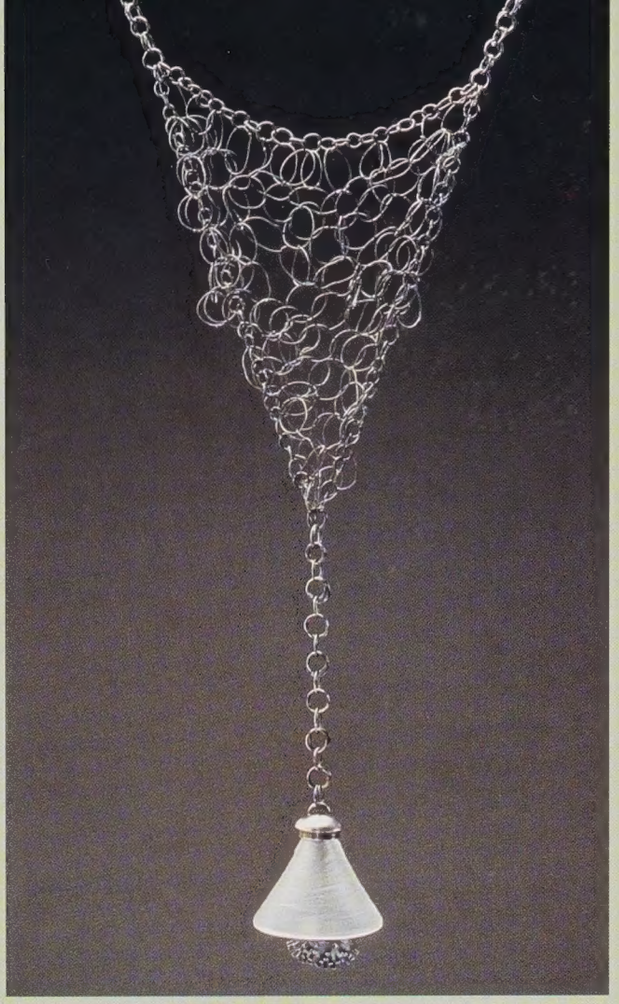
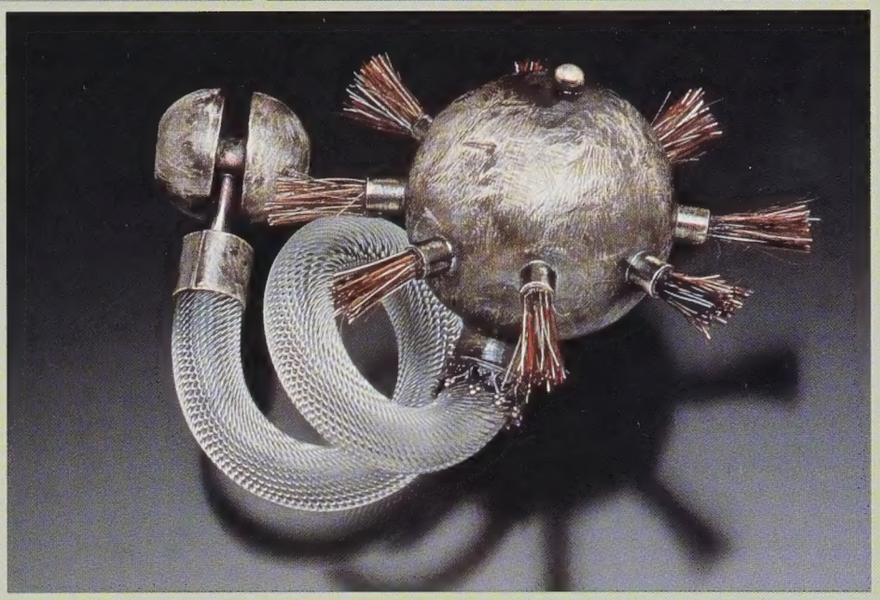
OBSERVATIONS

left
Thread, 1998
sterling, blown glass

the work of KAREN GILBERT





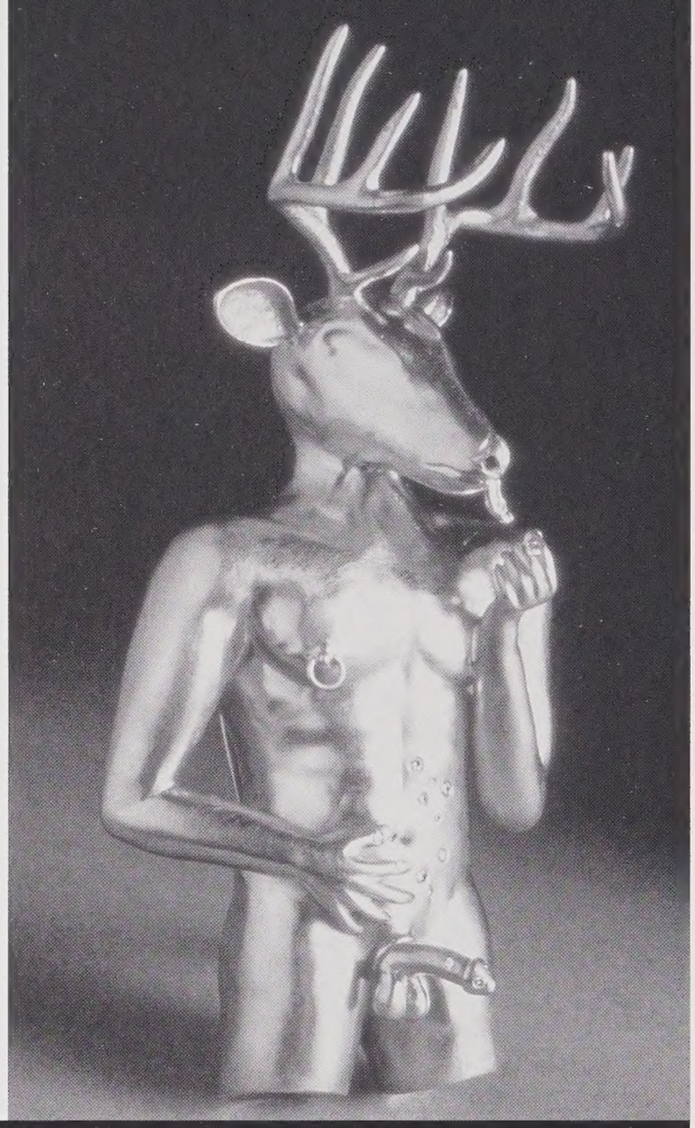
Karen Gilbert makes strange, modern talismans. Their silver and clear glass surfaces seem to absorb, reflect, and refract an almost numinous light, the way that an amulet seems to glow and emit light in science fiction movies. Yet, for all of their modern and otherworldly qualities, Gilbert's brooches and neckpieces beckon the touch. We desire to grasp them, to hold the secret of such magic charms. We feel empowered by such an embrace and comforted by the elegant frozen, liquid beauty of their forms.
Michal Ann Carley

clockwise from top left
Eyelet (neckpiece)
sterling, blown and cut glass
20"

Channel, 1998
sterling, blown glass
20 x 8"

Odd Occurrence, 1997
sterling, solid optical glass

Reverse (brooch)
sterling, blown glass
6 x 1"



KEITH LEWIS UNCOVER

SUSAN CUMMINS GALLERY
MILL VALLEY, CALIFORNIA
NOVEMBER 2 - DECEMBER 4, 1999

text by **CHIORI SANTIAGO**

I'm holding in my hand a tiny male figure made of sterling silver polished to a sweat-like sheen, as classically formed as a diminutive Parthenon sculpture. Nestled like a jewel at the center of this brooch is its pièce de résistance: a perfect, proud, sterling silver erection. This little fellow's complete lack of modesty -- so out of character for a public piece of jewelry -- is such a delicious piece of farce, like a flasher startling old ladies in the Louvre, that I can't help laughing out loud.

The Keith Lewis pins in this show are filled with similar force of personality. They are frank ambassadors of the state of the artist's loves and losses; tour guides to the culture and complications of gay maledom. They are brooches in name only; really, they're sculpture that happens to have a pin on the back.

Their presence, after all, has a good deal more impact than their stature (which isn't more than about 4 1/2 inches). Take the piece resting in my palm, Wish. Instead of a head, the figure sports an upturned wishbone, which it grasps with its two hands as if to rip it asunder. It's an allegory of duality, suggesting a struggle between closeted and accepting selves.

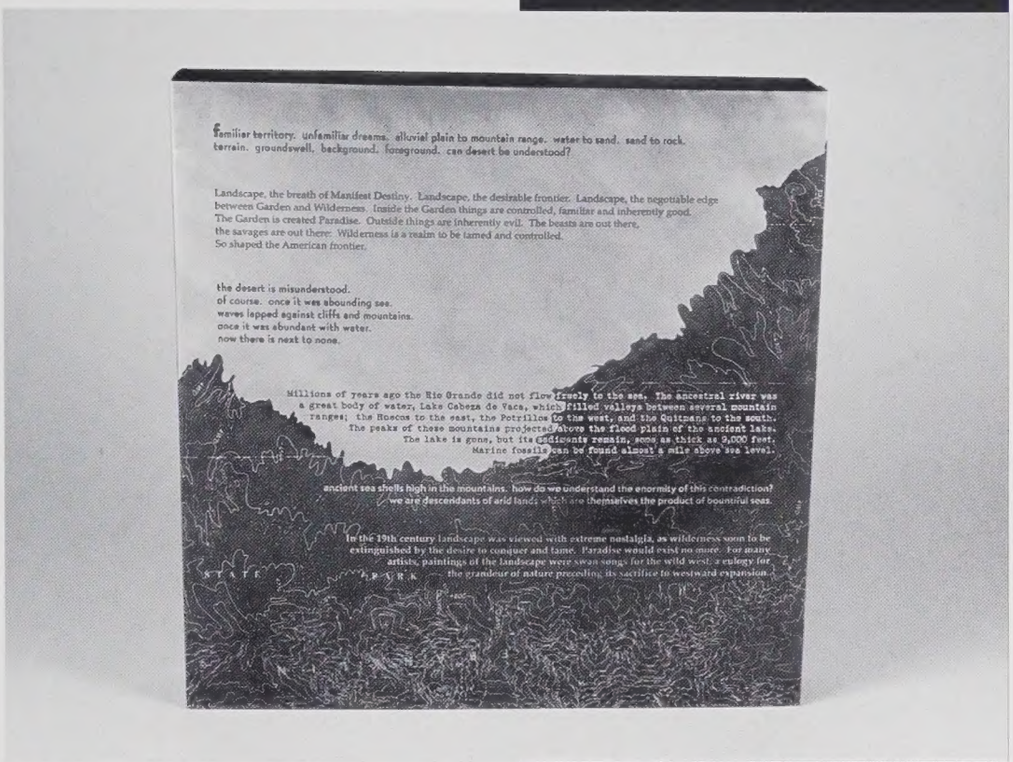
Salt Lick, on the other hand, is a character very pleased with itself. This 24k gold-plated stag has a crown of antlers that curve like an embrace. Its tongue lolls to one side, tipped by a diamond fleck of semen -- an adornment of droplets scattered over abdomen, fingertips, and reposing penis. One human hand rests, splay-fingered, on its belly (Lewis combines both casting and hollow-forming to achieve fine, realistic detail). It's both blatant pun and homage to male sexual triumph and its temporal satisfaction.

Fig Leaf examines a youth's developing sexual curiosity; Key, a figure adorned with key holes, speaks of pent-up desire. One non-figurative piece, Of Rarity Untold, expresses the overall feeling of Lewis's work: he urges the viewer to consider the "back story" of each character. Here, in detail forged of chased and patinated silver, Lewis presents a candelabra with tumescent enamel flames before a black drape, its pull-cords dancing. A swallowtail butterfly hovers dangerously close to the flames. Behind the drape, an ominous scene unfolds in which a skeletal claw reaches for a fragile orchid, Death encroaching upon full-bloom life. The artist skillfully uses the notion of jewelry as an outward expression of one's image to delve into the psychology behind the image-making.

An advantage to viewing these pieces at a gallery is the opportunity to hold them, to feel their weight and to turn them over in the hand to examine their hidden messages. Like 17th-century embroidered lingerie, the workmanship is as perfect on the flip side as it is on the front; Lewis invites us to lift the hem of the petticoat to discover that hidden perfection.

Chiori Santiago is a writer who lives in San Francisco, California

top left
Keith Lewis
Salt Lick, pin, 1996
sterling, 24k plate, diamonds
$4\frac{1}{2} \times 2\frac{1}{4} \times 2$"


familiar territory. unfamiliar dreams. alluvial plain to mountain range. water to sand. sand to rock.
terrain. groundswell. background. foreground. can desert be understood?
Landscape, the breath of Manifest Destiny. Landscape, the desirable frontier. Landscape, the negotiable edge between Garden and Wilderness. Inside the Garden things are controlled, familiar and inherently good. The Garden is created Paradise. Outside things are inherently evil. The beasts are out there, the savages are out there. Wilderness is a realm to be tamed and controlled. So shaped the American frontier.
the desert is misunderstood.
of course. once it was abounding sea.
waves lapped against cliffs and mountains.
once it was abundant with water.
now there is next to none.
Millions of years ago the Rio Grande did not flow freely to the sea. The ancestral river was a great body of water, Lake Cabeza de Vaca, which filled valleys between several mountain ranges; the Hueco to the east, the Potrillos to the west, and the Quitmans to the south. The peaks of these mountains projected above the flood plain of the ancient lake. The lake is gone, but its sediments remain, some as thick as 9,000 feet. Marine fossils can be found almost a mile above sea level.
ancient sea shells high in the mountains. how do we understand the enormity of this contradiction? we are descendants of arid land, which are themselves the product of bountiful seas.
In the 19th century landscape was viewed with extreme nostalgia, as wilderness soon to be extinguished by the desire to conquer and tame. Paradise would exist no more. For many artists, paintings of the landscape were swan songs for the wild west, a eulogy for the grandeur of nature preceding its sacrifice to westward expansion.

BEAUTY/CHAOS
ADAIR MARGO GALLERY
EL PASO, TEXAS
NOVEMBER 9 - DECEMBER 31, 1999

text by **KATE BONANSINGA**

Metalsmith Rachelle Thiewes and painter Susan Davidoff have a mutual respect for the Chihuahuan Desert that they call home. This was the cornerstone for *Beauty/Chaos*, their recent two-person exhibition, where, appropriately, a sense of spareness resonated. Jewelry, paintings, and artists' books composed the exhibition, but only the artists' books made fully apparent the artists' common affection for the arid and expansive land of the Southwest.

In one of the two gallery spaces, four of Thiewes's extra-long necklaces, all titled *Mood Swing*, danced in suspension in the middle of the room. They faced several pairs of her wall-mounted pairs of earrings, joined discs of slate and gold that touch the neck and shoulders when worn. Behind them were Davidoff's small-scale paintings of desert plants. The artist isolates berries, pods, and grasses, depicts them in deep black, and envelops them with washes of neutral shades, attained in part with natural materials that she collected on walks through the areas that are her subject. Her larger scale works, shown in a separate gallery space with the artists' books, better capture the desert environment because they, like the desert, can consume the viewer.

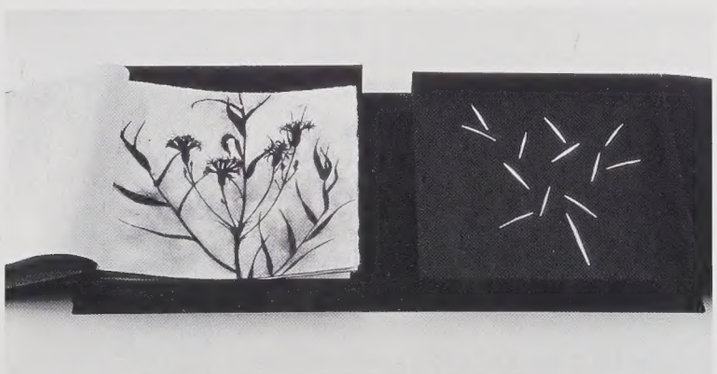
Each artist competently furthers her individual inquiry at mid-career, but the visual connection between the two bodies of work is tenuous. Thiewes continues to create jewelry that increases the wearer's awareness of her body and how it interacts with her surrounding space. Davidoff, in turn, renders select parts of those surroundings, making her personal journey relevant to all who appreciate the natural world. Thiewes's jewelry is cool and abstract, the materials and forms as reduced as the desert expanse. Davidoff's imagery, on the other hand, is expressive and representational. Though the starting point of the jewelry agrees with that of the paintings, the aesthetic results diverge.

They come together in the collaborative artists' books, also titled *Beauty/Chaos*. Four charcoal drawings and one gathering of metal elements compose each of the eight unique books, bound by Priscilla Spitler and accompanied by an elaborate nickel silver case. Beverly Penn crafted the cases and wrote the text (which includes excerpts of conversations between the artists, as well as art historical and geologic accounts of the desert) that is superimposed on a topographical map on the front of each metal jacket. The formal likeness between Thiewes's abstraction and Davidoff's representation is more obvious in the books because the renderings are proximate and reduced to a similar scale.

Books request intimate physical interaction and psychological immersion. We "get lost in" a good book, much like we're engulfed by the wide sky and flat land of the wild. Davidoff offers works in three scales. The smallest works are her best, and those are literally bound together with the metalwork. It's there that their narrative quality is most apparent and that they elucidate and add warmth to Thiewes's sleek forms. Conversely, artists from the Anasazi to Georgia O'Keefe have rendered their refuge in the desert with spare abstractions. Thiewes follows in this tradition and lends a welcome edge to Davidoff's somewhat romantic executions.

The excitement of discovering the visual subtleties of these opened books leads me to surmise that they may have been more understated and, consequently, better tied to their subject, had the artists chosen not to include words on the jacket. Select statements, such as "confront," "chaos," and "edge" also adorned the walls of the gallery. They were ineffective crutches for the viewer, who would have been better challenged if presented with these intriguing forms and images alone.

Kate Bonasinga is writer who lives in El Paso Texas.

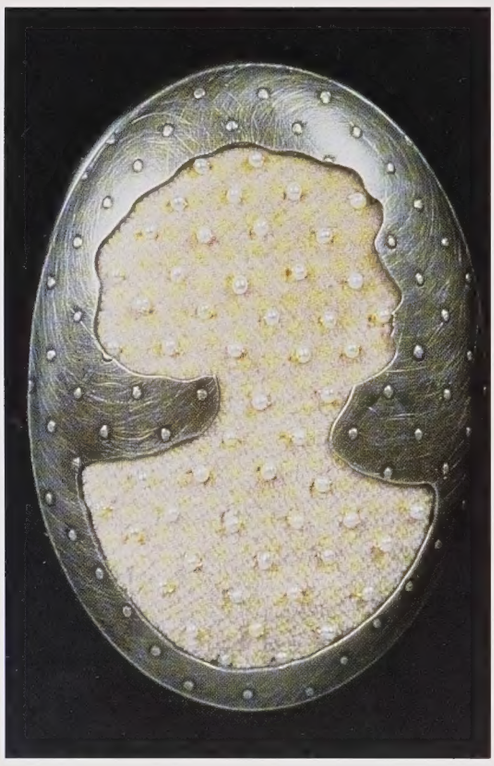


top
Susan Davidoff, Beverly Penn, Rachelle Thiewes
Slip-cover, 1999
nickel silver, topographical map
12 x 12 x 2"

bottom
Susan Davidoff, Beverly Penn, Rachelle Thiewes
Beauty/Chaos, Book # 5, 1999
silver, 18k, charcoal, natural materials, paper, with metal slip cover
12 x 12 x 2"

HEATHER WHITE
SYBARIS GALLERY
ROYAL OAK, MICHIGAN

text by **VINCENT CARDUCCI**



left
Heather White
Protean Cameo #4 (brooch), 1999
seed pearls, sterling, velvet
2 x 1 3/4 x 1/4"

middle
Heather White
Protean Cameo #5 (brooch), 1999
sterling, 18k yellow, pearls
2 1/8 x 2 1/8 x 1/4"

right
Gina Westergarrd
Calyxes (container), 1998
sterling, copper, paint, horsehair
16 x 5"
Photograph by Robert Hickerson

If there is such a thing as a postmodern metalsmith, Heather White is it. Besides fusing traditional standards of metalcraft to a modern understanding of pure form, White engages the social and historical narratives within which her medium operates. She makes objects that are visually arresting and thematically complex, while simultaneously exposing issues of cultural production and consumption.

White's recent exhibition at Sybaris presented works from three series. In each, the artist uses recognizable forms to function as what she terms "visual metonymies." These forms establish compositional frameworks for individual pieces, and they suggest social and cultural contexts that invite deeper understanding.

The *Protean Cameo* series comprises variations on an archetype of women's jewelry. Often passed down through generations of females in a family, for White the cameo serves as a motif for literally and metaphorically stretching conceptions of femininity. She distends the image, sometimes vertically, sometimes horizontally, and at times to the point of abstraction, pushing at idealized representations that impinge on "feminine" selfhood.

The *Cassinian Oval* series consists of brooches and refers to Jean-Dominique Cassini (1625-1712), the astronomer after whom the Cassini Division in the rings of Saturn is named. Each piece is made of filament delicately fashioned in ellipses around a central element. While playing off the formal association between each piece of jewelry and the celestial body, the series also relates to White's investigations into a different form of metalworking: alchemy.

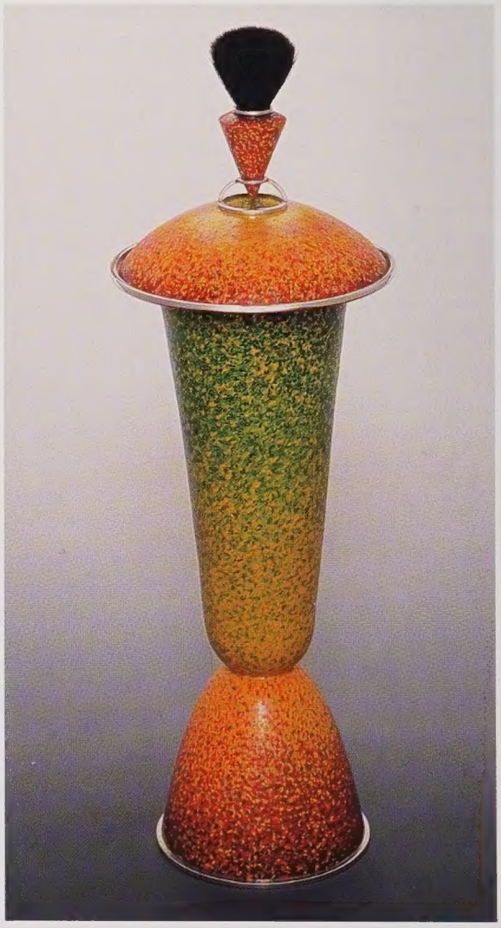
In the hermetic tradition, Saturn is the astrological affine of lead, the alchemist's base metal. In the *Cassinian Ovals*, quotidian objects — a bit of rabbit fur, a few rose petals, a piece of painted wood — inhabit spaces typically occupied by precious stones. Thus, through the ameliorative power of the artist, the common becomes refined, thereby confusing codes of conspicuous consumption and the class identities they promulgate.

The most ambitious works presented at Sybaris were taken from the *Retractable Crown* series. These works are related to a larger group of headpieces White has been making for a number of years. According to the artist, each form in the group has a symbolic referent: "the wide brimmed hat to feminine fashion and the top hat to masculine bourgeois attire."

The *Retractable Crowns* refer to the circumstance, if not the pomp, of sovereign power. Of the works on view at Sybaris, *Domain* (1997) especially resonates. The crown figure is constructed of steel, copper, and sterling formed into a hanging basket that brims with growing grass; around the periphery, upwardly pointed spikes are arranged like picket fencing. The work evokes the domestic realm that in conventional society is the province of women, but the circle of sharp rods also circumscribes the limits of that domain.

Of the so-called decorative arts, the boundary that separates metal as a "craft" from "fine art" continues to be one of the more rigidly drawn. White's work transgresses those barriers to offer the best of both worlds, rendering the distinction moot.

Vincent Carducci has written on art for a number of publications, including *American Craft*, *Art in America*, and *New Art Examiner*.



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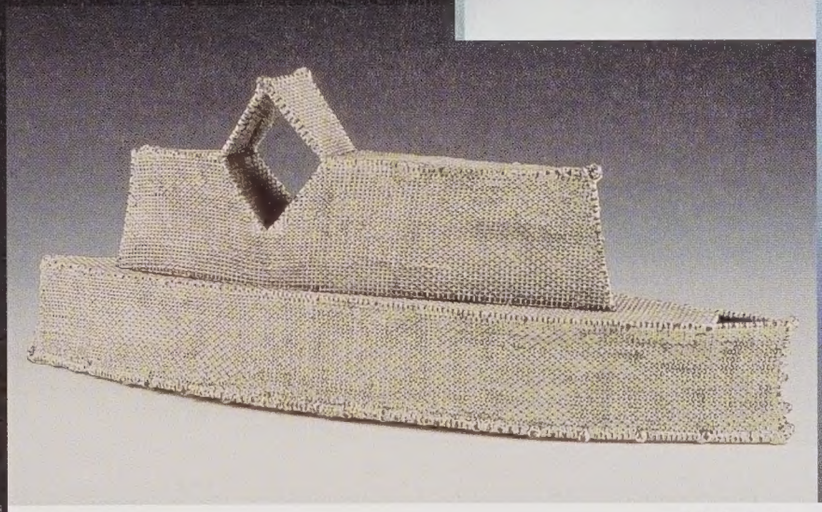

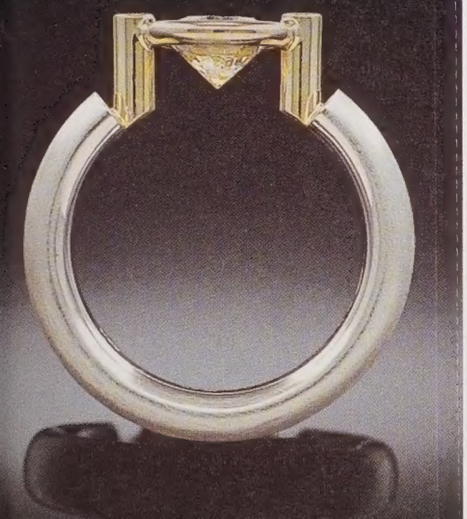

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opposite page, clockwise from top

Chris Y. Smith
Balance Is Too Strenuous (brooch)
silver
4 1/2 x 5 x 1"

Biba Schutz
Circum Pendant, 1996
oxidized bronze and copper, sterling, fine silver
4 1/3 x 1 1/3 x 1 1/3"

(*Metalsmith* Magazine)
Marilyn Da Silva
Harlequin Pair 1, 1998
copper, brass, gold-plate, gesso, colored pencil, squares: 4 x 7 x 3"
diamonds: 5 1/2 x 6 x 3"
photograph by Don Felton

Billie Jean Theide
Butte #EF-8 (teapot), 1997
bronze, electroformed copper, enamel, patina
4 1/4 x 10 x 12 1/2"
photograph by Billie Jean Theide

Whitney Boin
Post Engagement Ring, 1996
produced since 1988
platinum, 18k
photograph by Todd Flashner

DISCOVERIES WITHIN: GINA WESTERGARD

KANSAS CITY ARTISTS COALITION
JACQUELINE B. CHARNO GALLERY
KANSAS CITY, KANSAS
AUGUST 6 - SEPTEMBER 11, 1999

text by **STEFANIE OLSON**

Gina Westergard's recent exhibition at the Kansas City Artists Coalition was a combination of her familiar jewelry pieces and new vessel forms. The sense of discovery and wonder evoked by the work makes Westergard's art truly refreshing and unique. While her pendants in sculptural bases are always exciting to encounter, the new containers explore challenging themes not previously addressed in her work.

Westergard began working with vessels in 1997 with *She Dances With Goose Bumps*, a small sterling perfume decanter. Created as a self-portrait, this small vial led Westergard to ponder the symbolism of the vessel throughout art history. The vessel, a common metaphor for the body or womb, also is associated with ritual ceremonies and mythical legends.

Westergard successfully combines fresh contemporary techniques and designs with references to past associations with vessel construction. The main bodies are spun copper forms. Sterlings lids and details with hammered textures, as well as vibrant colors and unique paint application techniques, add complexity to the work, encouraging the viewer to explore the work tactilely as well as visually.

The containers, with secret interior spaces, are well suited to Westergard's commitment to art with which the viewer is encouraged to interact. The relationship between the interior and exterior is of paramount importance in all of the vessels. Westergard treats the inside with as much care as the outside, rewarding, and often surprising, the curious viewer who investigates the interior.

Fallow is the first of the four vessels created since 1997. This small cup resembles a ceremonial chalice or reliquary. A ritualistic function is suggested by the animal eye that rests atop the lid on a swiveling bar adorned with bits of fur, and the surface treatment of the body of the cup that recalls the patterning of animal skin. The surface is marked by rough raised craters that seem to function as pores, communicating between the interior of the vessel and the exterior. One is surprised to find these pores transformed into perfectly rounded protrusions on the interior surface. These contrasting textures are evidence of Westergard's desire to engage the viewer's sense of touch. The lid of the cup also entices the curious to caress and explore its moving parts and interesting materials. The use of moving parts is a technique that Westergard often incorporates into her jewelry designs.

The idea of ritual vessels is explored further in *Hope's Glow*. Both the shape of this vessel and the use of silver combined with the jewel-toned paint reminds one of sumptuous medieval reliquaries. As in *Fallow*, the relationship between the interior and the exterior is of primary importance. In *Hope's Glow*, a circular hole in the lid allows communication between the interior and exterior. Through this opening, a red and golden orb is visible. The color of the orb is a surprising contrast to the regal purple, yellow, and green of the exterior, and indeed creates a magical glow, as indicated by the title.

The sense of mystery evoked in *Hope's Glow* is created again in *Anesidora's Pithos*. A ritual is implied in the exotic shape and rich materials of the form. *Anesidora's Pithos* is actually two containers that fit together. A small, brightly colored container fits inside the larger bowl of a shiny black glass vessel. A large metal collar surrounds the openings and further protects the smaller piece. This nesting configuration symbolizes the protective relationship between the female body and the womb.

The literary reference to Anesidora, found in the title, expands the theme of potential and protection suggested in the structure of the work. Anesidora is a variation of the name Pandora, who in Greek mythology is the first woman. The name means sender-forth of gifts, suggesting the promise and joy embodied in her creation. While Anesidora brought beauty and goodness to mankind, the pithos she carried was filled with all the ills that afflict humanity. Her curiosity caused her to open the vessel, releasing sorrow and pain into our world. The only element that remained in the pithos was hope. A radiant burst of color greets the viewer who fits the lid of *Anesidora's Pithos*, affirming the promise of hope in the world.

With the last of Westergard's vessels, *Calyxes*, she returns to themes of childhood and play found in her earlier jewelry work. Thousands of brushstrokes of color give this vessel a decidedly playfill air. The whimsical use of color comes from Westergard's longtime fascination with children's toys and games. On top of the lid is a dense brush of horsehair. This unexpected element invites the viewer to touch, as well as to relate the work to Westergard's pendants in sculptural bases that often include wisps of hair or neoprene bristles. As with the other containers, a surprise awaits the viewer who lifts the lid. Inside, the conical shape of the handle is repeated. The interior is also covered in the same bright splashes of color.

Westergard's vessels offer an exciting new direction in her work. With them she has explored new themes while remaining closely attached to issues introduced in her jewelry. As in all of her work, the vessels demand that the viewer interact with them to fully discover their meaning and mystery.

Stefanie Olson is a graduate student in the history of art at the University of Kansas.

left
Gina Westergarrd
Hope's Glow (container), 1999
sterling, copper, glass, paint
11 1/2 x 5"
Photograph by Robert Hickerson

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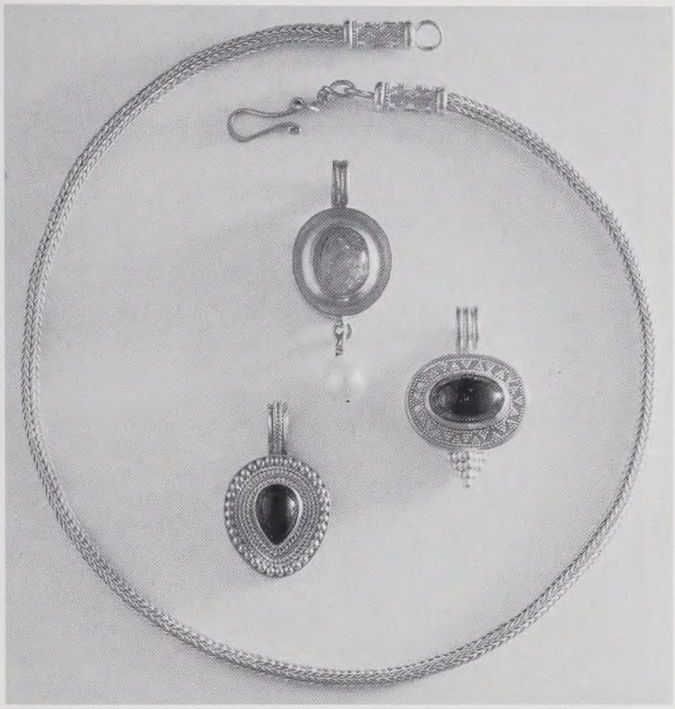

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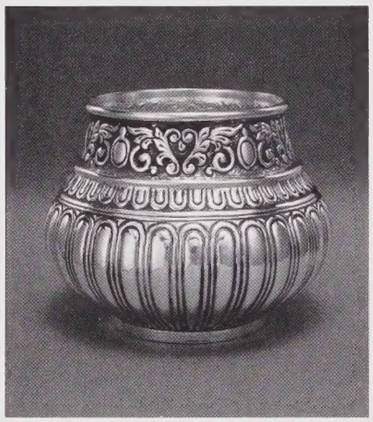

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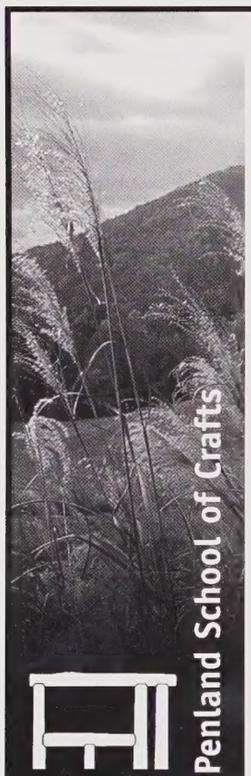

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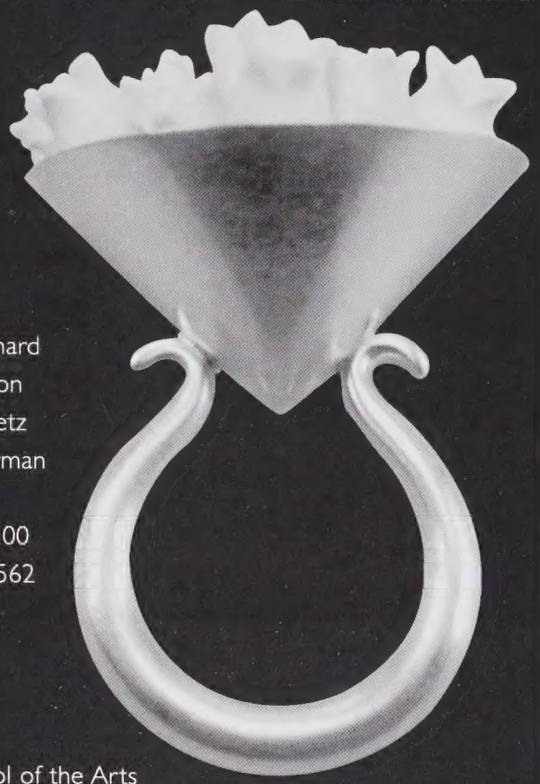

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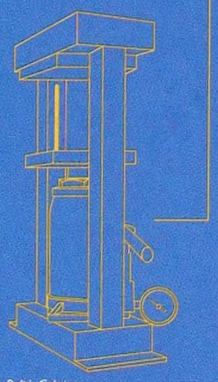

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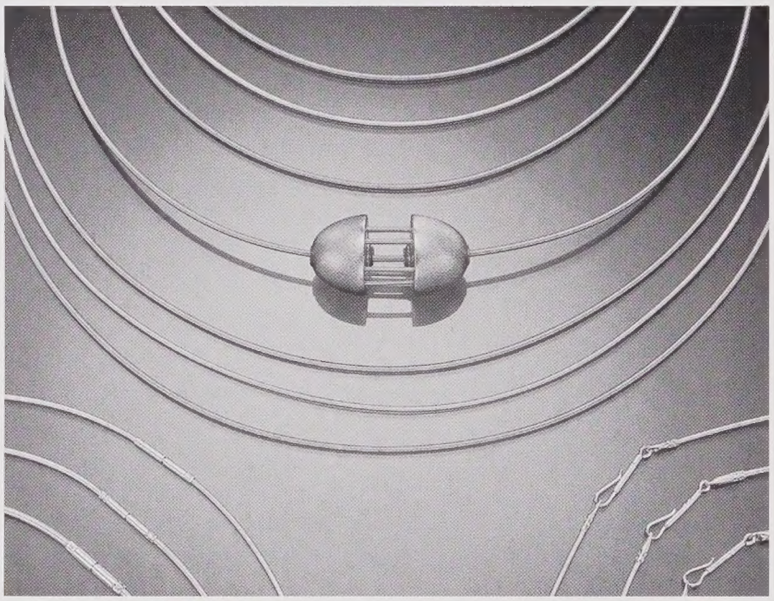

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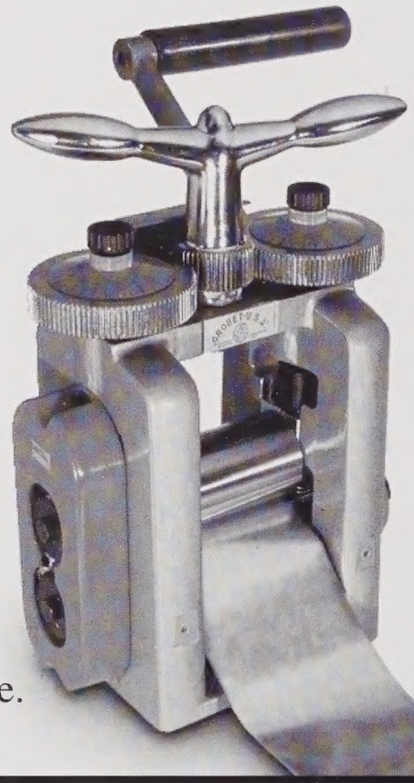

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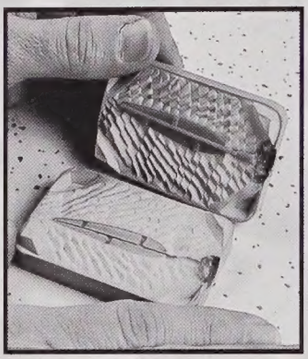

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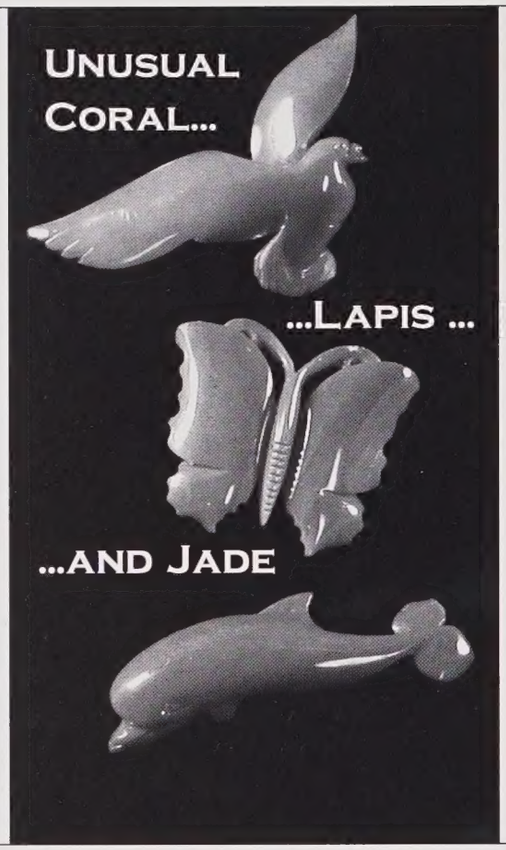

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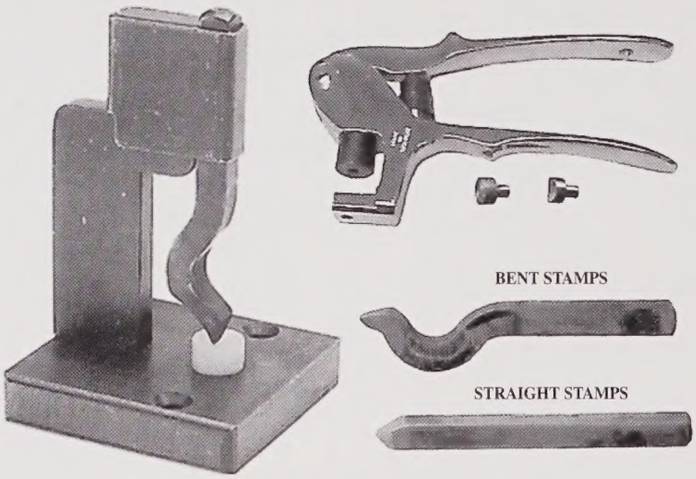

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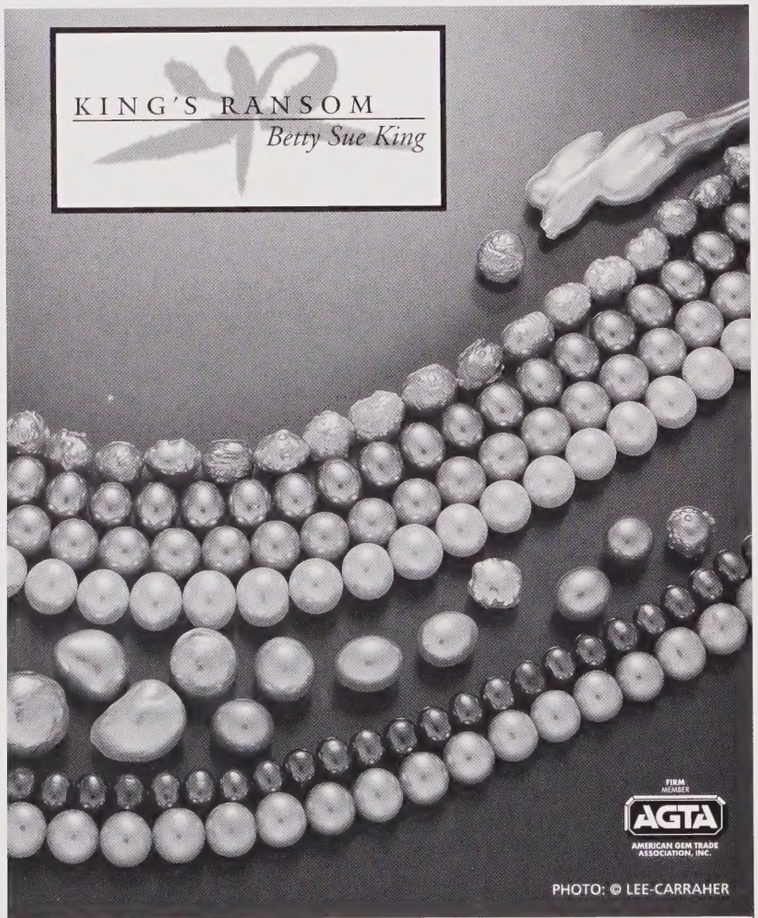

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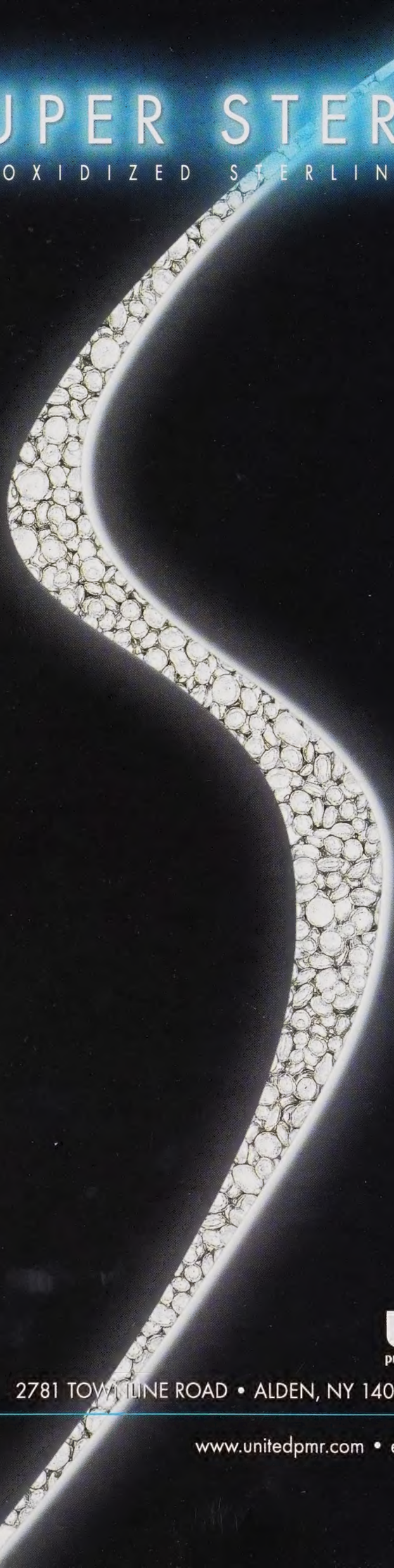

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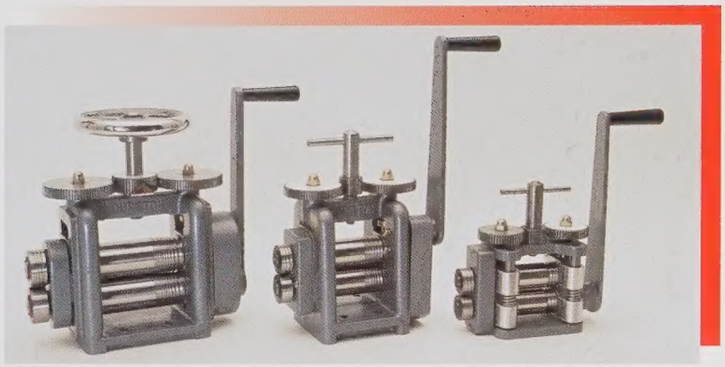

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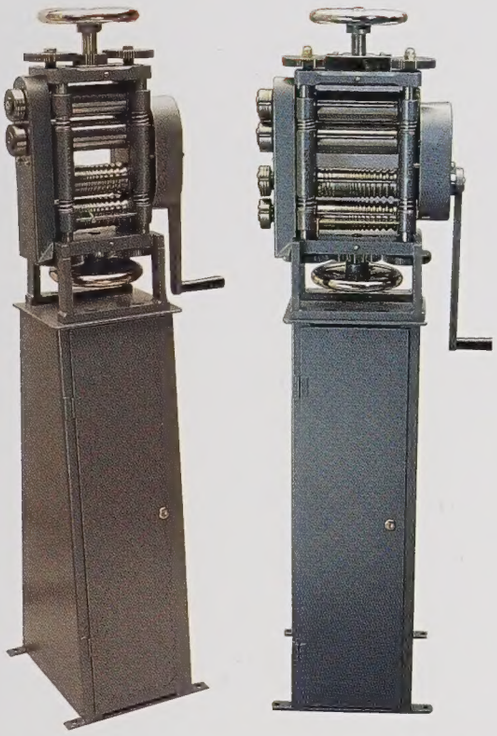

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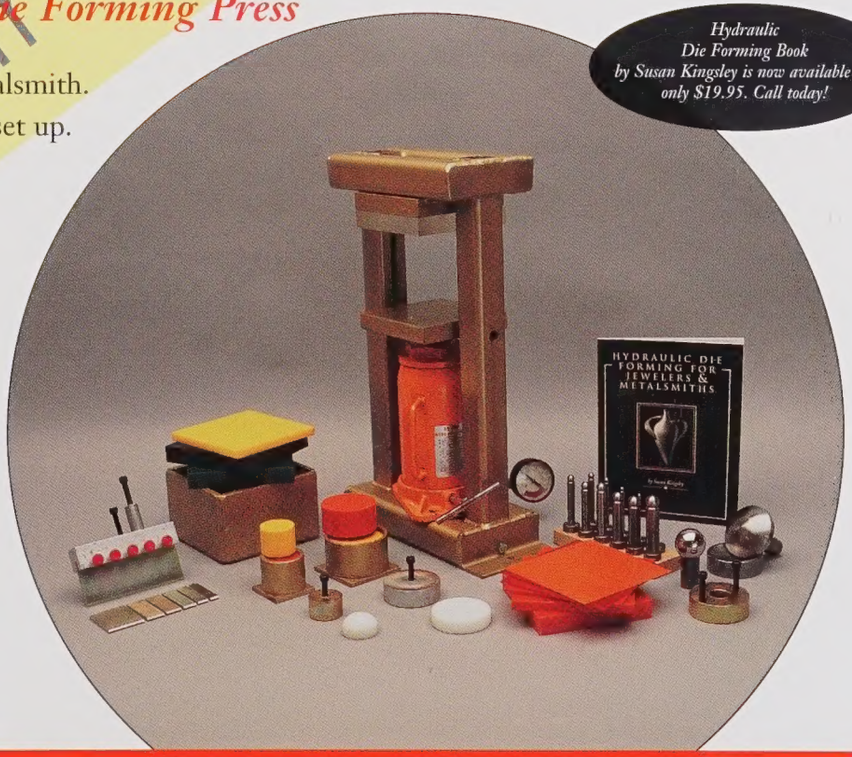

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